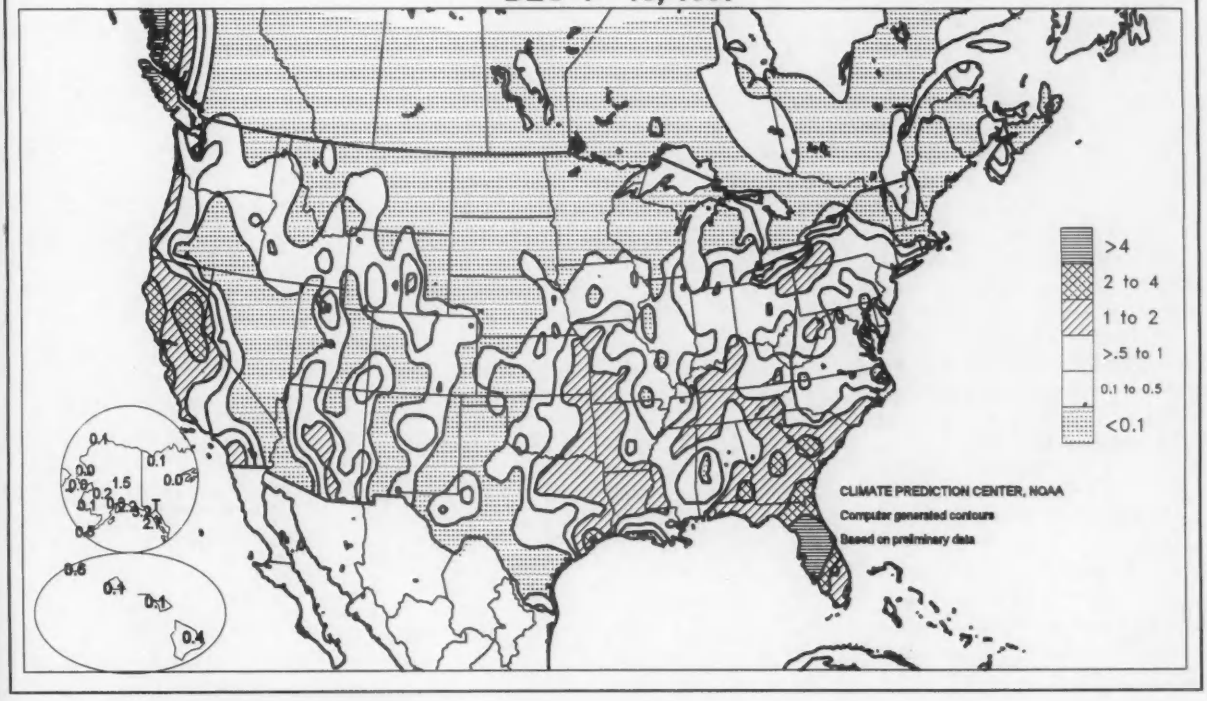
Volume 84, No. 50 *125 Years of Weather and Crop Reporting* December 16, 1997

# WEEKLY WEATHER AND CROP BULLETIN

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service

U.S. DEPARTMENT OF AGRICULTURE
National Agricultural Statistics Service
and World Agricultural Outlook Board

**Total Precipitation (Inches)**
**DEC 7 - 13, 1997**




## HIGHLIGHTS

**December 7 - 13, 1997**

A slight weather-pattern shift allowed **California** to dry out and permitted moisture to return to the **Pacific Northwest**. Across the **Southeast**, however, damp, cloudy weather persisted. Wetness intensified in **central Florida**, where weekly rainfall approached a foot in a few locations. Meanwhile, a sprawling high-pressure system drifted across the **Intermountain West** during the week, building to a strength of 31.07 inches (1,052 millibars) by Friday. Although the high was not of Arctic origin, its strength resulted in very low temperatures in valleys of the **West** and delivered a freeze to most of **South Texas** at week's end. The high's other effects included Santa Ana winds in **southern**

*(Continued on page 2)*

***Contents***

Temperature Departure &
Extreme Minimum Temperature Maps ..... 2
National Weather Data for Selected Cities ..... 3
National Agricultural Summary &
Snow Cover Map ..... 6
International Weather and Crop Summary &
**November Temperature/Precipitation Maps** . 7
Subscription Information ..... 20

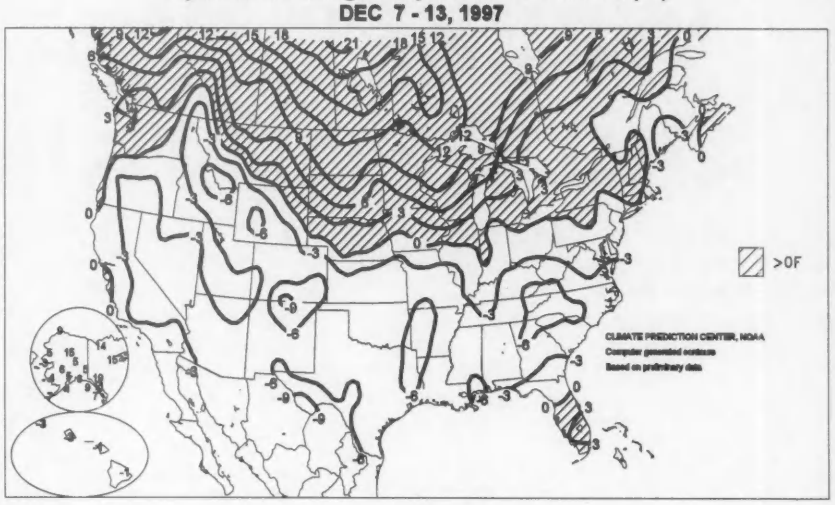
*(Continued from front cover)*
**California** and downslope warming across the **northern Plains** and **upper Midwest**. Weekly temperatures averaged more than 10°F below normal in a few high-elevation valleys of the **northern Rockies** and 2 to 7°F below normal from the **central and southern Plains** into the **Southeast**. Departures reached +12°F on the **northern Plains**.

Early in the week, precipitation abated across **California** and the **Southwest**, shifting into the **central and southern Plains**, **Midwest**, and **East**. On Sunday, daily-record rainfalls were reported in downtown **Sacramento, CA** (1.32 inches), **Tucson, AZ** (0.56 inches), and **Dallas-Ft. Worth, TX** (1.31 inches). In **California**, early-week rainfall topped 2 inches in some coastal and Sierra Nevada foothill locations.

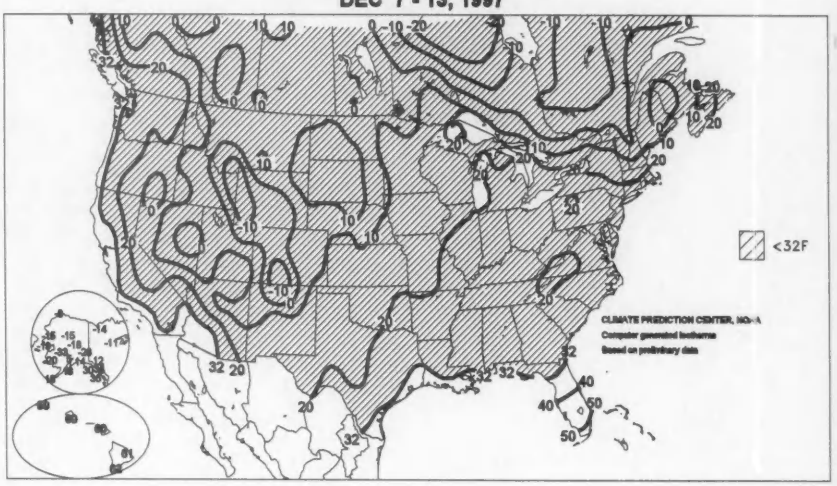
Snow fell frequently across the **Midwest** and **Northeast**, accumulating several inches. By Wednesday, snow depths reached 4 inches in **Madison, WI**, 6 inches in **Peoria, IL**, and 8 inches in **Kirksville, MO**. A day later, snow was on the ground as far south as **Amarillo, TX** (2 inches) and **Oklahoma City, OK** (1 inch), and as far east as **Poughkeepsie, NY** (5 inches). Much-needed moisture fell on the **northern High Plains**, where midweek snow depths included 7 inches in **Lewistown, MT** and 2 inches in **Billings, MT**. By week's end, however, warm, breezy weather returned to the **northern Plains**, where a daily-record high was set on Saturday in **Glendive, MT** (54°F).

Toward week's end, cloudiness finally began to erode across many areas **east of the Rockies**. When the sun appeared in **Chicago, IL** for 70 minutes on Friday, it topped the 65 minutes that had been recorded during the previous 15 days (November 27 to December 11). **Indianapolis, IN** experienced 3 minutes of sunshine on December 12, their first since 28 minutes on December 5. Sunshine also returned to **Des Moines, IA** on Friday. **Des Moines'** 11-day cloudy streak (December 1-11) marked their longest stretch without sunshine since 12 days in December 1991-January 1992.

**Departure of Average Temperature from Normal (°F)**
**DEC 7 - 13, 1997**




**Extreme Minimum Temperature (°F)**
**DEC 7 - 13, 1997**




More than a dozen daily-record highs were set across **Florida** from December 9-12. From Tuesday to Thursday, **Ft. Lauderdale** (87, 86, and 87°F) and **Miami** (86, 85, and 85°F) notched three consecutive records apiece. Heavy rainfall developed across **central Florida** around midweek, continuing through week's end. Some of the heaviest precipitation fell north of **Tampa**, in **Pasco County**, where weekly totals approached 11 inches, and south of **Orlando**, in **Osceola County**, where December 9-14 rainfall totaled 11.65 inches in **St. Cloud**. December 1-14 rainfall reached 9.05 inches in **Tampa** and 8.26 inches in **Orlando**, establishing monthly records.

On Wednesday morning, temperatures dipped to near or below freezing in the vicinity of **Phoenix, AZ**. Lows included 29°F in **Coolidge** and 31°F in **Glendale**. High-elevation valleys of the **West** reported very low temperatures after midweek. On Thursday, **West Yellowstone, MT** recorded -32°F. A day later, **Soda Springs, ID** notched -20°F. Very cold weather shifted into **southern Texas** at week's end. Sleet developed on Friday in **Brownsville, TX**, their 12th occurrence of frozen precipitation during this half-century and first since November 3, 1991. Lows on Saturday included 14°F in **Junction**, 17°F in **Hondo**, and 34°F in **Brownsville**.

# National Weather Data for Selected Cities

## Weather Data for the Week Ending December 13, 1997

Data Provided by Climate Prediction Center (301-763-8000 EXT. 7511)

| STATES AND STATIONS | | TEMPERATURE °F | | | | | | PRECIPITATION | | | | | | | RELATIVE HUMIDITY, PERCENT | | NUMBER OF DAYS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | TEMP, °F | | PRECIP. | |
| | | AVERAGE MAXIMUM | AVERAGE MINIMUM | EXTREME HIGH | EXTREME LOW | AVERAGE | DEPARTURE FROM NORMAL | WEEKLY TOTAL, IN. | DEPARTURE FROM NORMAL | GREATEST IN 24-HOUR, IN. | TOTAL, IN., SINCE Dec 1 | PCT. NORMAL SINCE Dec 1 | TOTAL, IN., SINCE Jan 1 | PCT. NORMAL SINCE Jan 1 | AVERAGE MAXIMUM | AVERAGE MINIMUM | 90 AND ABOVE | 32 AND BELOW | .01 INCH OR MORE | .50 INCH OR MORE |
| AL | BIRMINGHAM | 48 | 36 | 81 | 21 | 42 | -5 | 0.81 | -0.34 | 0.30 | 1.30 | 62 | 52.04 | 101 | 91 | 64 | 0 | 2 | 4 | 0 |
| | HUNTSVILLE | 44 | 33 | 55 | 20 | 38 | -6 | 1.02 | -0.31 | 0.47 | 1.57 | 84 | 56.78 | 104 | 91 | 71 | 0 | 3 | 3 | 0 |
| | MOBILE | 55 | 41 | 71 | 29 | 48 | -6 | 1.65 | 0.45 | 0.93 | 2.57 | 117 | 78.34 | 129 | 96 | 63 | 0 | 1 | 7 | 1 |
| | MONTGOMERY | 52 | 37 | 67 | 23 | 45 | -6 | 0.30 | -0.88 | 0.14 | 0.49 | 23 | 48.16 | 92 | 88 | 53 | 0 | 1 | 4 | 0 |
| AK | ANCHORAGE | 28 | 16 | 35 | 5 | 22 | 5 | 0.34 | 0.09 | 0.13 | 0.49 | 107 | 17.93 | 118 | 96 | 79 | 0 | 7 | [illegible] | 0 |
| | BARROW | 2 | -5 | 16 | -8 | -1 | 9 | 0.06 | 0.03 | 0.02 | 0.06 | 120 | 5.53 | 130 | 84 | 78 | 0 | 7 | - | 0 |
| | FAIRBANKS | 6 | -8 | 10 | -18 | -1 | 5 | 1.46 | 1.27 | 1.40 | 1.75 | 486 | 7.28 | 70 | 90 | 80 | 0 | 7 | 2 | 1 |
| | JUNEAU | 42 | 35 | 46 | 34 | 39 | 11 | – | – | – | – | – | – | – | 99 | 89 | 0 | 0 | - | - |
| | KODIAK | 34 | 25 | 37 | 13 | 30 | -1 | 1.25 | -0.24 | 0.77 | 2.45 | 90 | 59.58 | 94 | 91 | 85 | 0 | 7 | 4 | 1 |
| | NOME | 12 | -2 | 29 | -19 | 5 | -3 | 0.00 | -0.19 | 0.00 | 0.44 | 122 | 17.24 | 119 | 81 | 73 | 0 | 7 | 0 | 0 |
| AZ | FLAGSTAFF | 32 | 17 | 42 | 3 | 25 | -6 | 0.99 | 0.44 | 0.49 | 1.30 | 130 | 15.93 | 74 | 75 | 48 | 0 | 7 | 3 | 0 |
| | PHOENIX | 61 | 43 | 65 | 35 | 52 | -3 | 0.28 | 0.06 | 0.21 | 1.58 | 385 | 5.42 | 78 | 68 | 28 | 0 | 0 | 2 | 0 |
| | PRESCOTT | 43 | 23 | 54 | 15 | 33 | -4 | 0.60 | 0.24 | 0.31 | 1.30 | 194 | 15.41 | 83 | 74 | 42 | 0 | [illegible] | 2 | 0 |
| | TUCSON | 55 | 38 | 62 | 29 | 46 | -6 | 0.89 | 0.65 | 0.58 | 2.30 | 535 | 9.97 | 88 | 77 | 39 | 0 | 2 | 2 | 1 |
| | YUMA | 63 | 48 | 66 | 39 | 54 | -2 | 0.01 | -0.10 | 0.01 | 0.59 | 322 | 5.89 | 198 | 59 | 32 | 0 | 0 | 1 | 0 |
| AR | FORT SMITH | 41 | 33 | 46 | 24 | 37 | -5 | 0.86 | 0.12 | 0.66 | 1.54 | 108 | 37.94 | 96 | 90 | 74 | 0 | 3 | 2 | 1 |
| | LITTLE ROCK | 44 | 34 | 50 | 25 | 39 | -5 | 0.74 | -0.41 | 0.45 | 1.22 | 56 | 56.68 | 121 | 87 | 68 | 0 | 2 | 3 | 0 |
| CA | BAKERSFIELD | 64 | 35 | 66 | 30 | 45 | -3 | 0.16 | 0.02 | 0.11 | 1.03 | 398 | 5.88 | 110 | 98 | 60 | 0 | 3 | 3 | 0 |
| | EUREKA | 57 | 38 | 66 | 34 | 48 | -1 | 1.75 | 0.36 | 1.02 | 1.79 | 69 | 34.10 | 100 | 88 | 69 | 0 | 0 | 3 | 2 |
| | FRESNO | 60 | 37 | 64 | 32 | 44 | -2 | 0.46 | 0.16 | 0.34 | 0.98 | 171 | 7.85 | 81 | 99 | 70 | 0 | 1 | 2 | 0 |
| | LOS ANGELES | 65 | 48 | 68 | 43 | 57 | -1 | 0.29 | -0.07 | 0.29 | 4.38 | 651 | 12.32 | 112 | 56 | 33 | 0 | 0 | 1 | 0 |
| | REDDING | 54 | 34 | 61 | 32 | 44 | -1 | 0.67 | -0.56 | 0.65 | 1.38 | 81 | 33.37 | 111 | 93 | 54 | 0 | 4 | 2 | 1 |
| | SACRAM/MCCLELL | 53 | 39 | 61 | 34 | 46 | – | 1.38 | – | 1.38 | 1.49 | – | 14.48 | – | 96 | 70 | 0 | 0 | 1 | 1 |
| | SAN DIEGO | 65 | 49 | 72 | 44 | 57 | 0 | 0.34 | -0.02 | 0.21 | 0.88 | 131 | 6.25 | 69 | 58 | 32 | 0 | 0 | 2 | 0 |
| | SAN FRANCISCO | 56 | 44 | 60 | 41 | 50 | 0 | 2.17 | 1.52 | 1.80 | 3.64 | 303 | 20.10 | 113 | 86 | 62 | 0 | 0 | 2 | 1 |
| CO | ALAMOSA | 25 | -5 | 29 | -16 | 10 | -9 | 0.04 | -0.07 | 0.04 | 0.10 | 50 | 7.62 | 105 | 87 | 52 | 0 | 7 | 1 | 0 |
| | CO SPRINGS | 40 | 19 | 53 | 14 | 30 | -1 | 0.00 | -0.11 | 0.00 | 0.00 | 0 | 23.02 | 144 | 70 | 36 | 0 | 7 | 0 | 0 |
| | DENVER | 36 | 18 | 46 | 13 | 27 | -6 | 0.38 | 0.22 | 0.14 | 0.46 | 150 | 20.71 | 137 | 78 | 52 | 0 | 7 | 3 | 0 |
| | GRAND JUNCTION | 37 | 23 | 43 | 13 | 30 | 0 | 0.10 | -0.04 | 0.08 | 0.11 | 42 | 13.19 | 159 | 81 | 49 | 0 | 7 | 2 | 0 |
| | PUEBLO | 39 | 17 | 50 | 4 | 28 | -4 | 0.33 | 0.22 | 0.31 | 0.37 | 186 | 14.33 | 131 | 84 | 52 | 0 | 7 | 3 | 0 |
| CT | BRIDGEPORT | 39 | 29 | 46 | 24 | 34 | -2 | 0.58 | -0.22 | 0.48 | 0.87 | 58 | 34.48 | 87 | 84 | 58 | 0 | 7 | 2 | 0 |
| | HARTFORD | 37 | 24 | 43 | 20 | 30 | -1 | 0.24 | -0.67 | 0.23 | 0.36 | 21 | 37.01 | 88 | 89 | 58 | 0 | 7 | 2 | 0 |
| DC | WASHINGTON | 46 | 35 | 49 | 29 | 40 | -1 | 0.32 | -0.40 | 0.20 | 0.40 | 30 | 32.47 | 88 | 82 | 62 | 0 | 2 | 3 | 0 |
| DE | WILMINGTON | 42 | 31 | 46 | 26 | 37 | -1 | 0.42 | -0.39 | 0.42 | 0.68 | 46 | – | – | 85 | 63 | 0 | 5 | 1 | 0 |
| FL | DAYTONA BEACH | 69 | 54 | 80 | 34 | 62 | 1 | 3.84 | 3.26 | 1.32 | 3.97 | 371 | 50.89 | 110 | 97 | 74 | 0 | 0 | 6 | 3 |
| | JACKSONVILLE | 64 | 47 | 80 | 29 | 56 | 0 | 6.07 | 5.48 | 2.86 | 6.27 | 592 | 53.69 | 108 | 97 | 66 | 0 | 2 | 6 | 2 |
| | KEY WEST | 78 | 68 | 82 | 58 | 73 | 1 | 0.26 | -0.22 | 0.23 | 3.28 | 366 | 38.07 | 99 | 91 | 76 | 0 | 0 | 2 | 0 |
| | MIAMI | 79 | 65 | 86 | 50 | 72 | 2 | 1.10 | 0.69 | 0.87 | 3.40 | 430 | 66.55 | 125 | 95 | 65 | 0 | 0 | 2 | 1 |
| | ORLANDO | 71 | 56 | 83 | 38 | 64 | 1 | 4.96 | 4.45 | 1.98 | 6.59 | 716 | 58.50 | 125 | 94 | 63 | 0 | 0 | 6 | 4 |
| | TAMPA | 69 | 57 | 76 | 41 | 63 | 0 | 6.86 | 6.36 | 2.26 | 8.89 | 999 | 61.03 | 143 | 96 | 77 | 0 | 0 | 5 | 4 |
| | VALPARAISO/EGLIN | 57 | 44 | 75 | 28 | 51 | -2 | 1.42 | 0.49 | 0.60 | 1.42 | 84 | 61.70 | 104 | 90 | 64 | 0 | 1 | 6 | 1 |
| | WEST PALM BEACH | 80 | 63 | 87 | 45 | 71 | 3 | 1.42 | 0.83 | 1.42 | 2.57 | 220 | 58.76 | 99 | 93 | 61 | 0 | 0 | 1 | 1 |
| GA | ATHENS | 48 | 34 | 61 | 23 | 41 | -6 | 1.05 | 0.15 | 0.39 | 1.67 | 101 | 50.47 | 107 | 90 | 68 | 0 | 2 | 4 | 0 |
| | ATLANTA | 48 | 33 | 65 | 23 | 40 | -6 | 1.03 | 0.07 | 0.39 | 1.58 | 90 | 48.41 | 100 | 91 | 68 | 0 | 2 | 4 | 0 |
| | AUGUSTA | 53 | 36 | 67 | 24 | 44 | -4 | 2.83 | 2.10 | 0.75 | 2.88 | 220 | 47.89 | 112 | 93 | 62 | 0 | 2 | 6 | 3 |
| | COLUMBUS | 51 | 39 | 70 | 27 | 45 | -4 | 0.82 | -0.29 | 0.26 | 1.31 | 85 | 45.58 | 96 | 93 | 69 | 0 | 1 | 5 | 0 |
| | MACON | 52 | 38 | 71 | 27 | 45 | -5 | 2.24 | 1.30 | 0.57 | 2.30 | 137 | 40.23 | 98 | 92 | 61 | 0 | 2 | 6 | 2 |
| | SAVANNAH | 59 | 42 | 78 | 28 | 50 | -2 | 1.49 | 0.66 | 0.41 | 1.54 | 136 | 53.43 | 113 | 97 | 62 | 0 | 2 | 6 | 0 |
| HI | HILO | 80 | 65 | 81 | 61 | 72 | -1 | 0.39 | -2.47 | 0.24 | 1.70 | 31 | 125.67 | 103 | 88 | 61 | 0 | 0 | 3 | 0 |
| | HONOLULU | 79 | 65 | 83 | 60 | 72 | -3 | 0.02 | -0.83 | 0.02 | 0.15 | 10 | 19.77 | 100 | 83 | 54 | 0 | 0 | 1 | 0 |
| | KAHULUI | 80 | 64 | 83 | 60 | 72 | -1 | 0.12 | -0.58 | 0.08 | 0.72 | 57 | – | – | 88 | 56 | 0 | 0 | 4 | 0 |
| | LIHUE | 74 | 65 | 77 | 59 | 70 | -3 | 0.56 | -0.57 | 0.40 | 0.60 | 28 | – | – | 95 | 62 | 0 | 0 | 4 | 0 |
| ID | BOISE | 37 | 24 | 45 | 18 | 30 | -1 | 0.52 | 0.22 | 0.31 | 0.58 | 102 | 10.98 | 97 | 89 | 69 | 0 | 7 | 2 | 0 |
| | LEWISTON | 35 | 26 | 40 | 20 | 30 | -5 | 0.31 | 0.03 | 0.16 | 0.31 | 61 | 15.26 | 129 | 92 | 77 | 0 | 7 | 3 | 0 |
| | POCATELLO | 28 | 14 | 38 | 0 | 21 | -5 | 1.02 | 0.77 | 0.53 | 1.10 | 239 | 13.86 | 119 | 93 | 74 | 0 | 7 | 4 | 1 |
| IL | CHICAGO/O'HARE | 33 | 28 | 36 | 20 | 30 | 2 | 0.64 | 0.04 | 0.55 | 0.87 | 76 | 31.10 | 90 | 88 | 76 | 0 | 6 | 3 | 1 |
| | MOLINE | 32 | 26 | 35 | 18 | 29 | 2 | 0.31 | -0.21 | 0.22 | 0.63 | 63 | 33.80 | 89 | 93 | 81 | 0 | 7 | 2 | 0 |
| | PEORIA | 33 | 27 | 35 | 22 | 30 | 1 | 0.36 | -0.24 | 0.26 | 0.51 | 46 | 31.12 | 89 | 89 | 75 | 0 | 7 | 2 | 0 |
| | ROCKFORD | 32 | 25 | 34 | 17 | 29 | 2 | 0.30 | -0.20 | 0.21 | 0.63 | 67 | 28.85 | 78 | 90 | 78 | 0 | 7 | 3 | 0 |
| | SPRINGFIELD | 33 | 28 | 35 | 21 | 30 | -1 | 0.33 | -0.33 | 0.28 | 0.56 | 45 | 28.94 | 96 | 92 | 82 | 0 | 7 | 3 | 0 |
| IN | EVANSVILLE | 39 | 29 | 45 | 22 | 34 | -3 | 0.50 | -0.37 | 0.29 | 0.86 | 62 | 46.08 | 112 | 91 | 72 | 0 | 6 | 3 | 0 |
| | FORT WAYNE | 32 | 27 | 34 | 23 | 29 | -1 | 0.43 | -0.28 | 0.38 | 0.57 | 45 | 39.78 | 120 | 90 | 80 | 0 | 7 | 2 | 0 |
| | INDIANAPOLIS | 35 | 27 | 42 | 24 | 31 | -1 | 0.28 | -0.51 | 0.16 | 0.54 | 36 | 32.26 | 86 | 92 | 77 | 0 | 6 | 3 | 0 |
| | SOUTH BEND | 32 | 25 | 34 | 19 | 29 | -2 | 0.66 | -0.11 | 0.62 | 1.01 | 69 | 32.34 | 87 | 91 | 80 | 0 | 7 | 3 | 1 |
| IA | BURLINGTON | – | – | – | – | – | – | 0.53 | 0.12 | – | 0.67 | 74 | 31.67 | 91 | – | – | - | - | - | - |
| | CEDAR RAPIDS | – | – | – | – | – | – | 0.18 | -0.14 | – | 0.70 | 92 | 25.80 | 78 | – | – | - | - | - | - |
| | DES MOINES | 30 | 23 | 35 | 18 | 27 | 0 | 0.27 | -0.04 | 0.09 | 0.60 | 100 | 31.49 | 97 | 95 | 85 | 0 | 7 | 4 | 0 |
| | DUBUQUE | 31 | 23 | 34 | 18 | 27 | 3 | 0.15 | -0.33 | 0.08 | 0.66 | 71 | 29.46 | 79 | 94 | 82 | 0 | 7 | 3 | 0 |
| | SIOUX CITY | 33 | 19 | 42 | 7 | 26 | 3 | 0.03 | -0.16 | 0.02 | 0.03 | 8 | 18.25 | 72 | 93 | 75 | 0 | 7 | 2 | 0 |
| | WATERLOO | 30 | 22 | 34 | 14 | 26 | 4 | 0.03 | -0.29 | 0.02 | 0.39 | 94 | 31.31 | 95 | 94 | 84 | 0 | 7 | 2 | 0 |
| KS | CONCORDIA | 32 | 21 | 40 | 12 | 27 | -5 | 0.28 | 0.09 | 0.28 | 0.82 | 216 | 24.91 | 88 | 93 | 78 | 0 | 7 | 1 | 0 |
| | DODGE CITY | 35 | 25 | 45 | 12 | 30 | -4 | 0.06 | -0.10 | 0.03 | 0.37 | 123 | 27.54 | 130 | 92 | 69 | 0 | 7 | 3 | 0 |
| | GOODLAND | 32 | 20 | 43 | 12 | 26 | -4 | 0.10 | 0.00 | 0.07 | 0.23 | 121 | 18.35 | 103 | 87 | 73 | 0 | 7 | 2 | 0 |
| | TOPEKA | 33 | 24 | 38 | 16 | 29 | -4 | 0.67 | 0.33 | 0.30 | 1.17 | 180 | 29.33 | 86 | 93 | 76 | 0 | 7 | 3 | 0 |

Based on 1961-90 normals

## Weather Data for the Week Ending December 13, 1997

| STATES AND STATIONS | | TEMPERATURE °F | | | | | | PRECIPITATION | | | | | | | RELATIVE HUMIDITY, PERCENT | | NUMBER OF DAYS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | TEMP. °F | | PRECIP. | |
| | | AVERAGE MAXIMUM | AVERAGE MINIMUM | EXTREME HIGH | EXTREME LOW | AVERAGE | DEPARTURE FROM NORMAL | WEEKLY TOTAL, IN. | DEPARTURE FROM NORMAL | GREATEST IN 24-HOUR, IN. | TOTAL, IN., SINCE Dec 1 | PCT. NORMAL SINCE Dec 1 | TOTAL, IN., SINCE Jan 1 | PCT. NORMAL SINCE Jan 1 | AVERAGE MAXIMUM | AVERAGE MINIMUM | 90 AND ABOVE | 32 AND BELOW | .01 INCH OR MORE | .50 INCH OR MORE |
| | WICHITA | 38 | 27 | 48 | 20 | 32 | -3 | 0.13 | -0.16 | 0.08 | 0.72 | 131 | 35.10 | 122 | 91 | 71 | 0 | 7 | 4 | 0 |
| KY | JACKSON | 38 | 28 | 55 | 23 | 33 | -7 | 0.42 | -0.60 | 0.31 | 0.95 | 50 | 47.49 | 101 | 93 | 75 | 0 | 5 | 4 | 0 |
| | LEXINGTON | 38 | 28 | 49 | 21 | 33 | -5 | 0.93 | -0.01 | 0.85 | 1.14 | 66 | 57.60 | 136 | 92 | 72 | 0 | 5 | 4 | 1 |
| | LOUISVILLE | 39 | 32 | 47 | 28 | 35 | -3 | 0.84 | -0.21 | 0.41 | 0.93 | 68 | 54.55 | 120 | 91 | 71 | 0 | 4 | 3 | 0 |
| | PADUCAH | 41 | 30 | 49 | 20 | 35 | -3 | 0.73 | -0.37 | 0.51 | 1.13 | 55 | 49.36 | 106 | 96 | 73 | 0 | 3 | 3 | 1 |
| LA | BATON ROUGE | 57 | 41 | 77 | 28 | 49 | -5 | 0.28 | -0.97 | 0.17 | 0.41 | 18 | 62.59 | 108 | 88 | 57 | 0 | 1 | 3 | 0 |
| | LAKE CHARLES | 56 | 43 | 74 | 37 | 49 | -5 | 0.60 | -0.54 | 0.56 | 1.33 | 64 | 61.31 | 118 | 87 | 64 | 0 | 0 | 3 | 1 |
| | NEW ORLEANS | 60 | 45 | 80 | 37 | 52 | -3 | 0.41 | -0.90 | 0.33 | 0.67 | 28 | 49.76 | 85 | 86 | 60 | 0 | 0 | 4 | 0 |
| | SHREVEPORT | 50 | 39 | 72 | 32 | 44 | -5 | 1.11 | 0.17 | 1.10 | 1.88 | 95 | 84.79 | 148 | 95 | 60 | 0 | 1 | 2 | 1 |
| ME | CARIBOU | 23 | 7 | 33 | -10 | 15 | -2 | 0.07 | -0.69 | 0.07 | 0.93 | 65 | 33.22 | 95 | 93 | 82 | 0 | 7 | 1 | 0 |
| | PORTLAND | 37 | 19 | 40 | 13 | 28 | 0 | 0.01 | -1.07 | 0.01 | 0.37 | 18 | 36.21 | 84 | 81 | 52 | 0 | 7 | 1 | 0 |
| MD | BALTIMORE | 44 | 31 | 48 | 23 | 37 | -1 | 0.27 | -0.50 | 0.21 | 0.43 | 29 | 36.72 | 95 | 87 | 69 | 0 | 5 | 2 | 0 |
| MA | BOSTON | 41 | 29 | 44 | 25 | 35 | 0 | 0.00 | -0.93 | 0.00 | 0.49 | 28 | 30.25 | 77 | 86 | 63 | 0 | 7 | 0 | 0 |
| | WORCESTER | 35 | 25 | 41 | 21 | 30 | 1 | 0.45 | -0.49 | 0.34 | 0.76 | 43 | 34.67 | 76 | 83 | 61 | 0 | 7 | 3 | 0 |
| MI | ALPENA | 34 | 26 | 39 | 23 | 30 | 4 | 0.03 | -0.44 | 0.03 | 0.34 | 39 | 28.70 | 104 | 88 | 69 | 0 | 7 | 1 | 0 |
| | GRAND RAPIDS | 33 | 29 | 37 | 24 | 31 | 2 | 0.37 | -0.31 | 0.35 | 0.55 | 42 | 29.17 | 85 | 91 | 74 | 0 | 6 | 2 | 0 |
| | HOUGHTON LAKE | 32 | 23 | 36 | 15 | 28 | 3 | 0.00 | -0.46 | 0.00 | 0.18 | 21 | 25.93 | 95 | 88 | 73 | 0 | 7 | 0 | 0 |
| | LANSING | 33 | 28 | 38 | 23 | 31 | 2 | 0.37 | -0.19 | 0.34 | 0.46 | 42 | 26.27 | 90 | 90 | 73 | 0 | 6 | 2 | 0 |
| | MARQUETTE | – | – | – | – | – | – | 0.02 | -0.61 | – | 1.77 | 151 | 32.27 | 96 | – | – | - | - | - | - |
| | MUSKEGON | 34 | 28 | 36 | 20 | 31 | 1 | 0.20 | -0.51 | 0.16 | 0.54 | 41 | 25.76 | 83 | 89 | 71 | 0 | 6 | 3 | 0 |
| MN | DULUTH | 29 | 18 | 33 | 11 | 23 | 8 | 0.00 | -0.29 | 0.00 | 0.05 | 9 | 23.57 | 60 | 94 | 77 | 0 | 7 | 0 | 0 |
| | INT'L FALLS | 27 | 14 | 33 | 2 | 20 | 11 | 0.00 | -0.19 | 0.00 | 0.09 | 25 | 18.80 | 70 | 94 | 78 | 0 | 7 | 0 | 0 |
| | MINNEAPOLIS | 32 | 22 | 39 | 16 | 27 | 7 | 0.01 | -0.24 | 0.01 | 0.12 | 24 | 34.26 | 124 | 90 | 76 | 0 | 7 | 1 | 0 |
| | ROCHESTER | 29 | 21 | 34 | 16 | 25 | 6 | 0.00 | -0.25 | 0.00 | 0.10 | 21 | 29.34 | 101 | 93 | 82 | 0 | 7 | 0 | 0 |
| | ST. CLOUD | 30 | 21 | 36 | 16 | 26 | 9 | 0.00 | -0.19 | 0.00 | 0.07 | 18 | 24.43 | 91 | 92 | 73 | 0 | 7 | 0 | 0 |
| MS | JACKSON | 51 | 37 | 67 | 23 | 44 | -5 | 0.45 | -0.89 | 0.28 | 0.75 | 31 | 53.85 | 103 | 92 | 67 | 0 | 2 | 4 | 0 |
| | MERIDIAN | 52 | 37 | 69 | 22 | 44 | -5 | 0.18 | -1.19 | 0.15 | 0.61 | 24 | 51.13 | 98 | 92 | 57 | 0 | 2 | 2 | 0 |
| | TUPELO | 47 | 34 | 59 | 21 | 40 | -5 | 0.72 | -0.69 | 0.41 | 1.04 | 40 | 61.16 | 117 | 91 | 68 | 0 | 2 | 2 | 0 |
| MO | COLUMBIA | 33 | 26 | 36 | 19 | 30 | -4 | 0.57 | -0.03 | 0.34 | 0.81 | 71 | 38.17 | 96 | 94 | 80 | 0 | 7 | 4 | 0 |
| | KANSAS CITY | 34 | 25 | 40 | 18 | 29 | -3 | 0.99 | 0.62 | 0.59 | 1.46 | 209 | 32.17 | 88 | 90 | 76 | 0 | 7 | 4 | 1 |
| | SAINT LOUIS | 35 | 29 | 42 | 25 | 32 | -3 | 0.30 | -0.43 | 0.22 | 0.64 | 46 | 30.09 | 84 | 93 | 78 | 0 | 6 | 3 | 0 |
| | SPRINGFIELD | 36 | 27 | 41 | 16 | 31 | -6 | 1.19 | 0.42 | 0.48 | 1.84 | 112 | 38.98 | 89 | 96 | 81 | 0 | 7 | 4 | 0 |
| MT | BILLINGS | 35 | 21 | 44 | 13 | 28 | 1 | 0.26 | 0.09 | 0.19 | 0.39 | 126 | 15.39 | 105 | 74 | 52 | 0 | 7 | 2 | 0 |
| | BUTTE | 27 | 2 | 33 | -9 | 15 | -4 | 0.17 | 0.08 | 0.12 | 0.19 | 100 | 20.04 | 169 | 92 | 64 | 0 | 7 | 3 | 0 |
| | GLASGOW | 34 | 15 | 49 | 11 | 25 | 8 | 0.00 | -0.08 | 0.00 | 0.00 | 0 | 11.71 | 109 | 82 | 58 | 0 | 7 | 0 | 0 |
| | GREAT FALLS | 36 | 20 | 51 | 12 | 28 | 3 | 0.26 | 0.07 | 0.16 | 0.27 | 82 | 14.21 | 97 | 73 | 50 | 0 | 6 | 2 | 0 |
| | KALISPELL | 28 | 17 | 33 | 9 | 22 | -1 | 0.10 | -0.29 | 0.08 | 0.10 | 14 | 17.08 | 111 | 91 | 75 | 0 | 7 | 2 | 0 |
| | MILES CITY | 37 | 16 | 54 | 8 | 27 | 6 | 0.02 | -0.12 | 0.02 | 0.02 | 8 | 10.46 | 76 | 94 | 54 | 0 | 7 | 1 | 0 |
| | MISSOULA | 27 | 13 | 34 | 6 | 20 | -4 | 0.23 | -0.02 | 0.23 | 0.23 | 51 | 14.64 | 115 | 90 | 72 | 0 | 7 | 1 | 0 |
| NE | GRAND ISLAND | 35 | 20 | 51 | 8 | 28 | 1 | 0.02 | -0.15 | 0.02 | 0.03 | 9 | 29.73 | 117 | 91 | 73 | 0 | 7 | 1 | 0 |
| | LINCOLN | 33 | 22 | 43 | 14 | 28 | 1 | 0.08 | -0.14 | 0.07 | 0.22 | 52 | 24.56 | 88 | 93 | 77 | 0 | 7 | 2 | 0 |
| | NORFOLK | 34 | 18 | 45 | 7 | 26 | 2 | 0.08 | -0.10 | 0.07 | 0.08 | 24 | 19.86 | 80 | 93 | 71 | 0 | 7 | 2 | 0 |
| | NORTH PLATTE | 37 | 18 | 57 | 6 | 28 | 2 | 0.03 | -0.08 | 0.03 | 0.08 | 38 | 17.49 | 92 | 94 | 62 | 0 | 7 | 1 | 0 |
| | OMAHA | 32 | 21 | 40 | 14 | 27 | 0 | 0.10 | -0.15 | 0.06 | 0.38 | 79 | 30.30 | 103 | 94 | 85 | 0 | 7 | 3 | 0 |
| | SCOTTSBLUFF | 39 | 18 | 49 | 11 | 28 | 1 | 0.12 | -0.02 | 0.11 | 0.12 | 48 | 20.14 | 135 | 85 | 52 | 0 | 7 | 2 | 0 |
| | VALENTINE | 38 | 20 | 51 | 9 | 29 | 4 | 0.01 | -0.07 | 0.01 | 0.04 | 24 | 22.07 | 123 | 87 | 66 | 0 | 7 | 1 | 0 |
| NV | ELY | 31 | 5 | 38 | -7 | 18 | -8 | 0.47 | 0.30 | 0.25 | 0.47 | 152 | 9.41 | 96 | 84 | 52 | 0 | 7 | 2 | 0 |
| | LAS VEGAS | 53 | 39 | 56 | 29 | 46 | -1 | 0.04 | -0.04 | 0.02 | 0.10 | 67 | 3.82 | 99 | 49 | 24 | 0 | 2 | 2 | 0 |
| | RENO | 40 | 21 | 44 | 16 | 30 | -3 | 0.24 | 0.02 | 0.15 | 0.56 | 137 | 7.73 | 112 | 91 | 48 | 0 | 7 | 2 | 0 |
| | WINNEMUCCA | 39 | 18 | 44 | 10 | 29 | -2 | 0.24 | 0.04 | 0.12 | 0.31 | 79 | 7.94 | 102 | 92 | 57 | 0 | 6 | 3 | 0 |
| NH | CONCORD | 36 | 19 | 39 | 13 | 28 | 1 | 0.00 | -0.75 | 0.00 | 0.24 | 17 | 32.26 | 93 | 91 | 55 | 0 | 7 | 0 | 0 |
| NJ | NEWARK | 41 | 30 | 46 | 25 | 35 | -2 | 0.67 | -0.12 | 0.66 | 0.84 | 66 | 39.00 | 93 | 84 | 62 | 0 | 6 | 3 | 1 |
| NM | ALBUQUERQUE | 41 | 25 | 51 | 17 | 33 | -3 | 0.15 | 0.04 | 0.11 | 0.49 | 245 | 11.91 | 140 | 81 | 38 | 0 | 5 | 4 | 0 |
| NY | ALBANY | 34 | 25 | 37 | 18 | 29 | 1 | 0.04 | -0.65 | 0.04 | 0.21 | 16 | 32.70 | 95 | 84 | 68 | 0 | 7 | 1 | 0 |
| | BINGHAMTON | 31 | 24 | 32 | 20 | 27 | -1 | 0.52 | -0.18 | 0.42 | 0.92 | 70 | 29.59 | 84 | 96 | 79 | 0 | 7 | 4 | 0 |
| | BUFFALO | 34 | 29 | 37 | 25 | 31 | 1 | 0.85 | -0.02 | 0.55 | 1.32 | 81 | 39.52 | 108 | 90 | 74 | 0 | 7 | 5 | 1 |
| | ROCHESTER | 33 | 28 | 36 | 25 | 31 | 0 | 0.50 | -0.14 | 0.42 | 1.12 | 93 | 33.08 | 109 | 91 | 78 | 0 | 7 | 5 | 0 |
| | SYRACUSE | 34 | 27 | 37 | 19 | 30 | 0 | 0.77 | 0.01 | 0.56 | 1.13 | 78 | 29.59 | 80 | 92 | 74 | 0 | 7 | 5 | 1 |
| NC | ASHEVILLE | 41 | 27 | 60 | 17 | 34 | -6 | 0.57 | -0.23 | 0.27 | 1.06 | 70 | 47.44 | 104 | 91 | 63 | 0 | 5 | 3 | 0 |
| | CHARLOTTE | 46 | 33 | 53 | 24 | 39 | -4 | 0.66 | -0.11 | 0.34 | 1.02 | 71 | 45.68 | 111 | 86 | 63 | 0 | 3 | 3 | 0 |
| | GREENSBORO | 44 | 29 | 48 | 19 | 37 | -5 | 0.33 | -0.43 | 0.30 | 0.55 | 40 | 37.83 | 93 | 87 | 53 | 0 | 4 | 3 | 0 |
| | HATTERAS | 47 | 42 | 54 | 33 | 44 | -6 | 0.49 | -0.50 | 0.28 | 0.77 | 41 | 49.90 | 94 | 86 | 69 | 0 | 0 | 4 | 0 |
| | RALEIGH | 46 | 30 | 50 | 20 | 38 | -6 | 0.56 | -0.16 | 0.45 | 0.72 | 54 | 38.79 | 98 | 90 | 58 | 0 | 3 | 3 | 0 |
| | WILMINGTON | 54 | 37 | 72 | 26 | 46 | -4 | 1.41 | 0.61 | 0.45 | 1.94 | 133 | 45.50 | 87 | 94 | 60 | 0 | 2 | 5 | 0 |
| ND | BISMARCK | 33 | 22 | 48 | 14 | 28 | 12 | 0.03 | -0.08 | 0.03 | 0.08 | 40 | 14.89 | 98 | 87 | 72 | 0 | 7 | 1 | 0 |
| | DICKINSON | 35 | 22 | 50 | 16 | 29 | 10 | 0.02 | -0.06 | 0.02 | 0.02 | 13 | 16.05 | 101 | 85 | 67 | 0 | 7 | 1 | 0 |
| | FARGO | 29 | 18 | 33 | 9 | 23 | 9 | 0.00 | -0.14 | 0.00 | 0.02 | 8 | 26.63 | 139 | 91 | 79 | 0 | 7 | 0 | 0 |
| | GRAND FORKS | 29 | 18 | 36 | 7 | 23 | 11 | – | – | – | – | – | – | – | 92 | 80 | 0 | 7 | - | - |
| | JAMESTOWN | 29 | 21 | 36 | 13 | 25 | 10 | 0.06 | -0.05 | 0.04 | 0.23 | 115 | 20.60 | 124 | 91 | 82 | 0 | 7 | 2 | 0 |
| | WILLISTON | 33 | 18 | 42 | 10 | 25 | 10 | 0.00 | -0.14 | 0.00 | 0.00 | 0 | 11.75 | 88 | 87 | 69 | 0 | 7 | 0 | 0 |
| OH | AKRON-CANTON | 32 | 27 | 38 | 25 | 30 | -3 | 0.86 | 0.19 | 0.75 | 1.41 | 108 | 31.81 | 90 | 93 | 81 | 0 | 7 | 5 | 1 |
| | CINCINNATI | 36 | 30 | 47 | 26 | 34 | -1 | 0.74 | 0.00 | 0.43 | 1.07 | 77 | 38.43 | 97 | 88 | 71 | 0 | 5 | 3 | 0 |
| | CLEVELAND | 33 | 30 | 36 | 27 | 32 | -1 | 0.82 | 0.08 | 0.66 | 1.34 | 98 | 34.27 | 98 | 91 | 75 | 0 | 7 | 5 | 1 |
| | COLUMBUS | 36 | 30 | 46 | 26 | 33 | 0 | 0.83 | 0.16 | 0.72 | 1.11 | 87 | 36.70 | 100 | 92 | 76 | 0 | 6 | 2 | 1 |
| | DAYTON | 34 | 29 | 44 | 25 | 32 | -2 | 0.66 | -0.03 | 0.58 | 1.00 | 77 | 30.09 | 86 | 93 | 78 | 0 | 7 | 2 | 1 |
| | MANSFIELD | 31 | 27 | 34 | 23 | 29 | -3 | 0.66 | -0.06 | 0.61 | 1.06 | 75 | 36.07 | 100 | 94 | 82 | 0 | 7 | 4 | 1 |

Based on 1961-90 normals

## Weather Data for the Week Ending December 13, 1997

| STATES AND STATIONS | | TEMPERATURE °F | | | | | | PRECIPITATION | | | | | | | RELATIVE HUMIDITY, PERCENT | | NUMBER OF DAYS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | TEMP, °F | | PRECIP. | |
| | | AVERAGE MAXIMUM | AVERAGE MINIMUM | EXTREME HIGH | EXTREME LOW | AVERAGE | DEPARTURE FROM NORMAL | WEEKLY TOTAL, IN. | DEPARTURE FROM NORMAL | GREATEST IN 24-HOUR, IN. | TOTAL IN. SINCE Dec 1 | PCT. NORMAL SINCE Dec 1 | TOTAL IN. SINCE Jan 1 | PCT. NORMAL SINCE Jan 1 | AVERAGE MAXIMUM | AVERAGE MINIMUM | 90 AND ABOVE | 32 AND BELOW | .01 INCH OR MORE | .50 INCH OR MORE |
| | TOLEDO | 33 | 28 | 36 | 25 | 30 | 1 | 0.64 | -0.06 | 0.63 | 1.00 | 76 | 37.81 | 121 | 90 | 78 | 0 | 7 | 2 | 1 |
| | YOUNGSTOWN | 34 | 28 | 40 | 26 | 31 | 0 | 0.94 | 0.25 | 0.79 | 1.39 | 107 | 32.36 | 91 | 90 | 78 | 0 | 6 | 5 | 1 |
| OK | OKLAHOMA CITY | 42 | 30 | 59 | 17 | 36 | -5 | 0.19 | -0.14 | - | 0.35 | 54 | 25.36 | 78 | 88 | 66 | 0 | 4 | - | - |
| | TULSA | 40 | 30 | 54 | 21 | 35 | -5 | 0.65 | 0.12 | 0.44 | 1.10 | 108 | 38.31 | 97 | 90 | 67 | 0 | 4 | 4 | 0 |
| OR | ASTORIA | 51 | 38 | 53 | 34 | 45 | 2 | 1.53 | -0.87 | 1.22 | 1.53 | 34 | 78.89 | 131 | 91 | 69 | 0 | 0 | 4 | 1 |
| | BURNS | 31 | 13 | 38 | 6 | 22 | -4 | 0.44 | 0.16 | 0.21 | 0.48 | 88 | 9.48 | 101 | 94 | 77 | 0 | 7 | 4 | 0 |
| | EUGENE | 42 | 32 | 50 | 28 | 37 | -4 | 0.91 | -1.06 | 0.44 | 1.02 | 28 | 37.44 | 84 | 91 | 80 | 0 | 6 | 4 | 0 |
| | MEDFORD | 48 | 30 | 61 | 26 | 39 | 1 | 0.25 | -0.52 | 0.18 | 0.33 | 23 | 16.90 | 100 | 98 | 65 | 0 | 5 | 2 | 0 |
| | PENDLETON | 35 | 28 | 43 | 26 | 32 | -4 | 0.67 | 0.30 | 0.37 | 0.67 | 98 | 11.29 | 101 | 98 | 86 | 0 | 7 | 4 | 0 |
| | PORTLAND | 45 | 37 | 52 | 34 | 41 | 0 | 0.90 | -0.50 | 0.34 | 0.90 | 35 | 41.78 | 128 | 94 | 72 | 0 | 0 | 4 | 0 |
| | SALEM | 43 | 32 | 51 | 30 | 38 | -3 | 0.50 | -1.07 | 0.37 | 0.52 | 18 | 42.69 | 121 | 95 | 70 | 0 | 4 | 3 | 0 |
| PA | ALLENTOWN | 38 | 26 | 43 | 19 | 32 | -1 | 0.36 | -0.45 | 0.30 | 0.51 | 34 | 36.66 | 88 | 88 | 67 | 0 | 7 | 3 | 0 |
| | ERIE | 36 | 31 | 36 | 27 | 33 | 0 | 1.48 | 0.59 | 0.91 | 2.79 | 170 | 39.87 | 101 | 92 | 79 | 0 | 5 | 4 | 1 |
| | MIDDLETOWN | 39 | 29 | 42 | 26 | 34 | -1 | 0.37 | -0.38 | 0.35 | 0.38 | 26 | 30.69 | 79 | 88 | 67 | 0 | 5 | 2 | 0 |
| | PHILADELPHIA | 43 | 32 | 47 | 27 | 37 | 0 | 0.52 | -0.25 | 0.35 | 0.69 | 48 | 30.09 | 76 | 78 | 58 | 0 | 4 | 3 | 0 |
| | PITTSBURGH | 36 | 29 | 47 | 26 | 33 | 0 | 0.40 | -0.26 | 0.38 | 0.62 | 50 | 33.89 | 96 | 88 | 73 | 0 | 6 | 2 | 0 |
| | SCRANTON | 35 | 27 | 37 | 20 | 31 | -1 | 0.58 | -0.03 | 0.50 | 0.85 | 75 | 26.35 | 78 | 89 | 71 | 0 | 7 | 3 | 1 |
| | WILLIAMSPORT | 37 | 29 | 43 | 22 | 33 | 1 | 0.34 | -0.38 | 0.34 | 0.44 | 32 | 28.60 | 73 | 88 | 67 | 0 | 6 | 1 | 0 |
| RI | PROVIDENCE | 41 | 26 | 47 | 24 | 33 | -1 | 0.34 | -0.67 | 0.33 | 0.73 | 39 | 37.99 | 88 | 92 | 69 | 0 | 7 | 2 | 0 |
| SC | BEAUFORT | 58 | 42 | 78 | 30 | 50 | -3 | 0.33 | -0.36 | 0.29 | 0.34 | 27 | 40.15 | 81 | 93 | 64 | 0 | 2 | 2 | 0 |
| | CHARLESTON | 57 | 41 | 78 | 27 | 49 | -3 | 1.05 | 0.36 | 0.30 | 1.09 | 88 | 58.48 | 118 | 95 | 64 | 0 | 2 | 6 | 0 |
| | COLUMBIA | 50 | 35 | 59 | 23 | 42 | -6 | 1.48 | 0.71 | 0.54 | 1.50 | 108 | 44.76 | 94 | 94 | 68 | 0 | 2 | 5 | 1 |
| | GREENVILLE | 45 | 31 | 52 | 22 | 38 | -6 | 0.83 | -0.10 | 0.31 | 1.44 | 86 | 47.24 | 97 | 92 | 64 | 0 | 4 | 3 | 0 |
| SD | ABERDEEN | 32 | 18 | 43 | 8 | 25 | 8 | 0.02 | -0.07 | 0.02 | 0.19 | 100 | 19.38 | 106 | 88 | 75 | 0 | 7 | 1 | 0 |
| | HURON | 35 | 19 | 47 | 10 | 27 | 7 | 0.05 | -0.06 | 0.04 | 0.13 | 65 | 24.82 | 124 | 87 | 68 | 0 | 7 | 2 | 0 |
| | RAPID CITY | 37 | 20 | 61 | 16 | 28 | 3 | 0.00 | -0.11 | 0.00 | 0.00 | 0 | 20.64 | 126 | 77 | 55 | 0 | 7 | 0 | 0 |
| | SIOUX FALLS | 31 | 17 | 39 | 6 | 24 | 4 | 0.07 | -0.10 | 0.05 | 0.18 | 48 | 20.18 | 86 | 92 | 77 | 0 | 7 | 2 | 0 |
| TN | BRISTOL | 41 | 28 | 58 | 18 | 35 | -5 | 0.34 | -0.43 | 0.19 | 1.04 | 74 | 40.43 | 104 | 90 | 67 | 0 | 5 | 3 | 0 |
| | CHATTANOOGA | 44 | 34 | 62 | 26 | 39 | -3 | 0.55 | -0.62 | 0.31 | 1.04 | 48 | 54.04 | 107 | 87 | 65 | 0 | 2 | 3 | 0 |
| | KNOXVILLE | 41 | 32 | 60 | 26 | 37 | -5 | 0.51 | -0.51 | 0.35 | 0.84 | 45 | 50.47 | 114 | 86 | 68 | 0 | 3 | 3 | 0 |
| | MEMPHIS | 48 | 34 | 61 | 26 | 40 | -5 | 0.65 | -0.71 | 0.63 | 1.12 | 44 | 67.72 | 138 | 87 | 67 | 0 | 2 | 2 | 1 |
| | NASHVILLE | 43 | 33 | 53 | 27 | 38 | -4 | 0.66 | -0.51 | 0.38 | 0.87 | 44 | 52.83 | 116 | 89 | 69 | 0 | 4 | 3 | 0 |
| TX | ABILENE | 51 | 32 | 72 | 18 | 42 | -5 | 0.39 | 0.15 | 0.39 | 0.86 | 187 | 24.78 | 104 | 85 | 42 | 0 | 4 | 1 | 0 |
| | AMARILLO | 44 | 23 | 63 | 10 | 33 | -4 | 0.11 | 0.01 | 0.05 | 0.46 | 230 | 23.29 | 121 | 89 | 50 | 0 | 7 | 3 | 0 |
| | AUSTIN | 59 | 40 | 80 | 29 | 50 | -3 | 0.20 | -0.24 | 0.20 | 0.22 | 27 | 43.02 | 140 | 80 | 36 | 0 | 1 | 1 | 0 |
| | BEAUMONT | 57 | 43 | 77 | 34 | 50 | -5 | 1.06 | -0.01 | 0.89 | 1.83 | 91 | 47.65 | 88 | 86 | 65 | 0 | 0 | 2 | 1 |
| | BROWNSVILLE | 66 | 52 | 79 | 34 | 59 | -4 | 0.24 | -0.04 | 0.23 | 0.24 | 46 | 35.98 | 139 | 92 | 54 | 0 | 0 | 2 | 0 |
| | CORPUS CHRISTI | 64 | 47 | 83 | 32 | 56 | -4 | 0.08 | -0.20 | 0.07 | 0.08 | 16 | 36.05 | 123 | 82 | 50 | 0 | 1 | 2 | 0 |
| | DEL RIO | 61 | 37 | 79 | 27 | 49 | -4 | 0.01 | -0.13 | 0.01 | 0.06 | 22 | 22.61 | 126 | 71 | 35 | 0 | 2 | 1 | 0 |
| | EL PASO | 49 | 32 | 62 | 18 | 41 | -4 | 0.21 | 0.07 | 0.21 | 0.49 | 204 | 8.73 | 102 | 77 | 34 | 0 | 4 | 1 | 0 |
| | FORT WORTH | 51 | 35 | 72 | 23 | 43 | -5 | 1.31 | 0.89 | 1.31 | 2.29 | 296 | 40.31 | 123 | 88 | 47 | 0 | 2 | 1 | 1 |
| | GALVESTON | 59 | 48 | 73 | 38 | 54 | -4 | 2.15 | 1.35 | 1.46 | 2.15 | 145 | 57.77 | 144 | 84 | 67 | 0 | 0 | 3 | 2 |
| | HOUSTON | 58 | 41 | 77 | 28 | 49 | -5 | 1.72 | 0.93 | 1.49 | 2.86 | 195 | 57.17 | 130 | 91 | 60 | 0 | 1 | 3 | 1 |
| | LUBBOCK | 48 | 25 | 66 | 13 | 36 | -5 | 0.07 | -0.06 | 0.07 | 0.24 | 96 | 21.16 | 116 | 86 | 41 | 0 | 5 | 1 | 0 |
| | MIDLAND | 53 | 30 | 69 | 20 | 41 | -4 | 0.56 | 0.42 | 0.37 | 0.59 | 227 | 16.38 | 111 | 81 | 33 | 0 | 4 | 2 | 0 |
| | SAN ANGELO | 54 | 31 | 74 | 19 | 42 | -5 | 0.06 | -0.13 | 0.06 | 0.17 | 49 | 22.17 | 111 | 88 | 34 | 0 | 4 | 1 | 0 |
| | SAN ANTONIO | 59 | 37 | 79 | 23 | 48 | -5 | 0.18 | -0.17 | 0.16 | 0.32 | 46 | 30.72 | 102 | 79 | 36 | 0 | 2 | 2 | 0 |
| | VICTORIA | 60 | 43 | 79 | 27 | 51 | -5 | 0.10 | -0.37 | 0.09 | 0.25 | 29 | 65.72 | 181 | 86 | 53 | 0 | 1 | 2 | 0 |
| | WACO | 53 | 36 | 73 | 22 | 45 | -5 | 0.71 | 0.27 | 0.71 | 1.36 | 163 | 34.91 | 113 | 87 | 44 | 0 | 3 | 1 | 1 |
| | WICHITA FALLS | 48 | 31 | 64 | 19 | 39 | -6 | 0.35 | 0.05 | 0.35 | 1.02 | 182 | 20.69 | 73 | 89 | 51 | 0 | 4 | 1 | 0 |
| UT | SALT LAKE CITY | 35 | 21 | 45 | 12 | 28 | -3 | 0.51 | 0.18 | 0.42 | 0.55 | 90 | 16.83 | 109 | 91 | 63 | 0 | 5 | 3 | 0 |
| VT | BURLINGTON | 30 | 19 | 37 | 12 | 25 | 0 | 0.03 | -0.55 | 0.02 | 0.35 | 32 | 29.28 | 86 | 91 | 71 | 0 | 7 | 2 | 0 |
| VA | LYNCHBURG | 43 | 26 | 48 | 17 | 34 | -5 | 0.33 | -0.41 | 0.29 | 0.95 | 69 | 33.78 | 87 | 92 | 56 | 0 | 5 | 2 | 0 |
| | NORFOLK | 48 | 36 | 53 | 29 | 42 | -3 | 0.36 | -0.32 | 0.36 | 0.62 | 48 | 35.38 | 83 | 91 | 68 | 0 | 2 | 2 | 0 |
| | RICHMOND | 45 | 30 | 47 | 23 | 38 | -4 | 0.37 | -0.37 | 0.36 | 0.65 | 48 | 32.43 | 79 | 90 | 63 | 0 | 5 | 2 | 0 |
| | ROANOKE | 41 | 30 | 45 | 21 | 36 | -4 | 0.20 | -0.49 | 0.20 | 0.40 | 31 | 33.63 | 85 | 83 | 58 | 0 | 4 | 1 | 0 |
| | WASH/DULLES | 44 | 29 | 47 | 22 | 37 | 0 | 0.42 | -0.32 | 0.29 | 0.58 | 42 | 34.41 | 90 | 88 | 69 | 0 | 5 | 3 | 0 |
| WA | HANFORD | 40 | 30 | 46 | 26 | 35 | - | 0.29 | 0.07 | 0.29 | 0.29 | 69 | 9.37 | 113 | 89 | 65 | 0 | 5 | 1 | 0 |
| | OLYMPIA | 48 | 30 | 51 | 28 | 38 | 0 | 0.43 | -1.42 | 0.18 | 0.43 | 13 | 60.29 | 131 | 96 | 78 | 0 | 4 | 4 | 0 |
| | QUILLAYUTE | 52 | 37 | 61 | 31 | 45 | 4 | 0.89 | -2.84 | 0.34 | 0.75 | 11 | 117.08 | 122 | 85 | 81 | 0 | 1 | 5 | 0 |
| | SEATTLE-TACOMA | 47 | 35 | 51 | 33 | 41 | 0 | 0.32 | -1.03 | 0.14 | 0.32 | 13 | 42.29 | 125 | 98 | 88 | 0 | 0 | 3 | 0 |
| | SPOKANE | 32 | 25 | 34 | 22 | 28 | 0 | 0.31 | -0.24 | 0.17 | 0.31 | 30 | 18.75 | 111 | 96 | 82 | 0 | 7 | 4 | 0 |
| | YAKIMA | 34 | 28 | 37 | 14 | 30 | -1 | 0.18 | -0.14 | 0.18 | 0.18 | 33 | 6.87 | 97 | 96 | 84 | 0 | 7 | 1 | 0 |
| WV | BECKLEY | 34 | 28 | 51 | 18 | 30 | -5 | 0.39 | -0.38 | 0.29 | 0.68 | 49 | 36.24 | 93 | 92 | 78 | 0 | 8 | 3 | 0 |
| | CHARLESTON | 40 | 31 | 58 | 25 | 35 | -3 | 0.22 | -0.57 | 0.17 | 0.60 | 41 | 39.79 | 96 | 89 | 73 | 0 | 5 | 3 | 0 |
| | ELKINS | 37 | 28 | 53 | 21 | 32 | -1 | 0.66 | -0.14 | 0.56 | 1.01 | 68 | 40.59 | 95 | 91 | 74 | 0 | 8 | 5 | 1 |
| | HUNTINGTON | 40 | 31 | 54 | 26 | 35 | -3 | 0.27 | -0.50 | 0.22 | 0.44 | 31 | 36.84 | 93 | 88 | 69 | 0 | 5 | 3 | 0 |
| WI | EAU CLAIRE | 33 | 23 | 40 | 16 | 28 | 9 | 0.06 | -0.19 | 0.04 | 0.16 | 33 | 29.44 | 95 | 92 | 75 | 0 | 7 | 2 | 0 |
| | GREEN BAY | 34 | 25 | 35 | 17 | 29 | 7 | 0.01 | -0.36 | 0.01 | 0.42 | 59 | 27.17 | 97 | 88 | 72 | 0 | 7 | 1 | 0 |
| | MADISON | 32 | 24 | 36 | 18 | 28 | 4 | 0.15 | -0.29 | 0.12 | 0.60 | 71 | 28.00 | 94 | 90 | 75 | 0 | 7 | 2 | 0 |
| | MILWAUKEE | 33 | 27 | 38 | 22 | 30 | 4 | 0.18 | -0.37 | 0.14 | 0.25 | 24 | 31.78 | 100 | 89 | 76 | 0 | 7 | 2 | 0 |
| WY | CASPER | 30 | 16 | 43 | -6 | 23 | -2 | 0.25 | 0.08 | 0.20 | 0.41 | 132 | 11.66 | 96 | 81 | 63 | 0 | 7 | 2 | 0 |
| | CHEYENNE | 36 | 20 | 48 | 12 | 28 | -1 | 0.50 | 0.40 | 0.20 | 0.59 | 295 | 19.89 | 141 | 77 | 50 | 0 | 7 | 3 | 0 |
| | LANDER | 21 | 6 | 30 | -6 | 13 | -8 | 0.78 | 0.64 | 0.54 | 1.22 | 469 | 13.83 | 109 | 91 | 73 | 0 | 7 | 3 | 1 |
| | SHERIDAN | 33 | 11 | 44 | 5 | 22 | -2 | 0.06 | -0.09 | 0.06 | 0.40 | 129 | 15.14 | 107 | 83 | 65 | 0 | 7 | 1 | 0 |

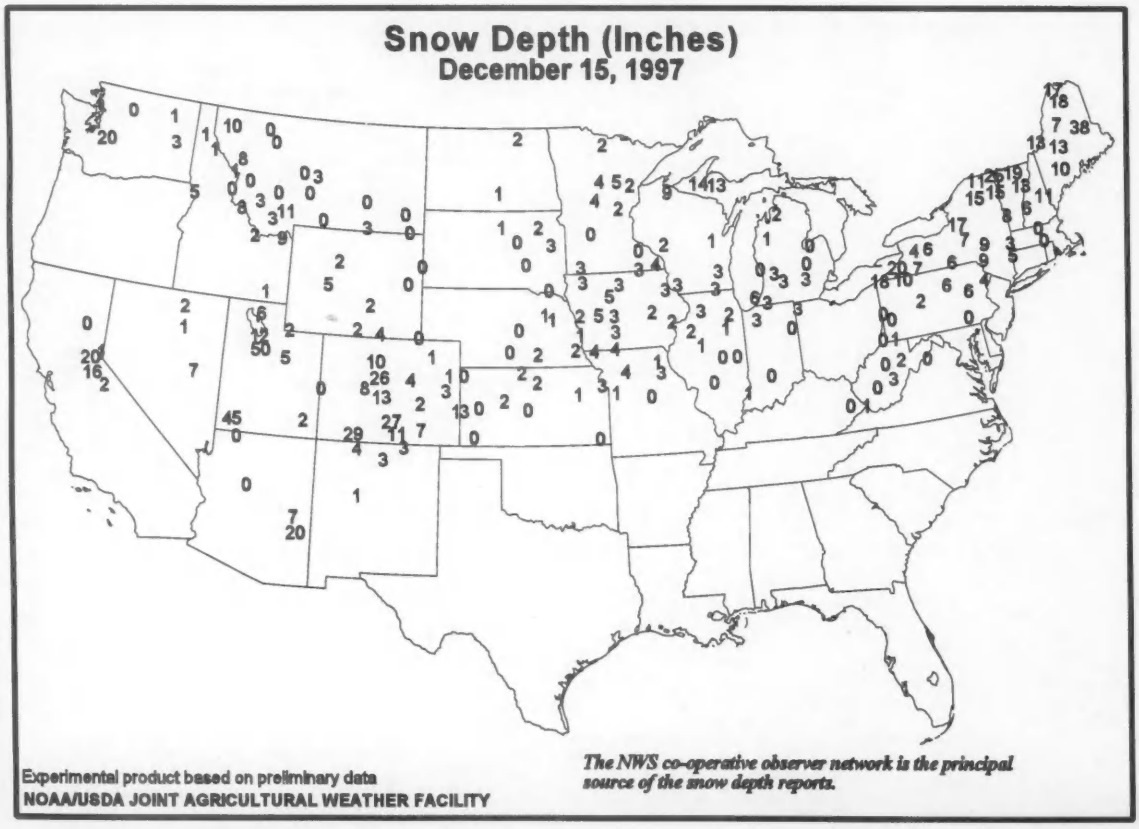
NOTE: These data are preliminary and subject to change. In the past, precipitation totals from a number of stations have been incomplete.

# National Agricultural Summary

**December 8 - 14, 1997**

## *HIGHLIGHTS*

**Storms moved across the Southern United States again last week, bringing rain, snow, and below-normal temperatures. After early-week showers in California, fruit and vegetable harvests and small grain seeding resumed as soils dried. Late-week good weather allowed Arizona farmers to harvest cotton and alfalfa fields. However, seeding of small grains remained well behind the normal pace due to late cotton harvest in the central area of the State. The rains moved eastward into the southern Plains, cutting some harvest activities short of completion, but bringing needed moisture to winter wheat fields. Below-normal temperatures as far south as the Mexico border slowed the growth and development of winter wheat fields, limiting grazing. Continued rainfall in the Southeast slowed harvest of remaining fall crops as most farmers turned their focus to general farm maintenance. Rare snow fell in Mississippi and Alabama late in the week, halting fieldwork activities. In Florida, heavy rain and flooding slowed citrus harvest and may have affected the quality of some vegetables. Areas of Florida have already received record monthly total precipitation. Snow fell across the Corn Belt, halting fieldwork but bringing needed soil moisture. The High Plains remained mostly dry, especially farther north, where little precipitation has fallen in the last 2 months.**


Snow Depth (Inches)
December 15, 1997
Experimental product based on preliminary data
NOAA/USDA JOINT AGRICULTURAL WEATHER FACILITY
The NWS co-operative observer network is the principal source of the snow depth reports.

# International Weather and Crop Summary

**December 7 - 13, 1997**

## *HIGHLIGHTS*

**FSU-WESTERN:** The coldest weather so far this season in winter grain areas of Russia and northern Ukraine was accompanied by snow.

**EUROPE:** Widespread showers and mild weather favored winter grains.

**NORTHWESTERN AFRICA:** Light showers maintained favorable moisture for winter grains in Algeria and Tunisia, while dry weather in Morocco allowed rapid planting progress.

**AUSTRALIA:** Widespread, timely rain covered primary summer crop areas.

**SOUTH ASIA:** Unseasonable wetness continued to plague mature cotton but further increased moisture reserves for winter grains and oilseeds.

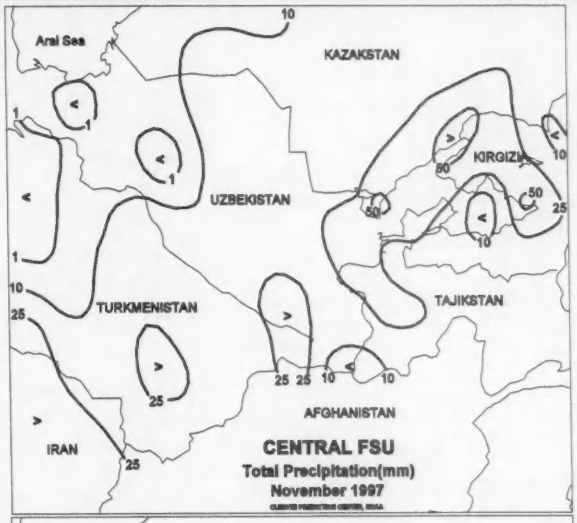
**SOUTH AFRICA:** Unfavorably warm, dry weather covered the corn belt.

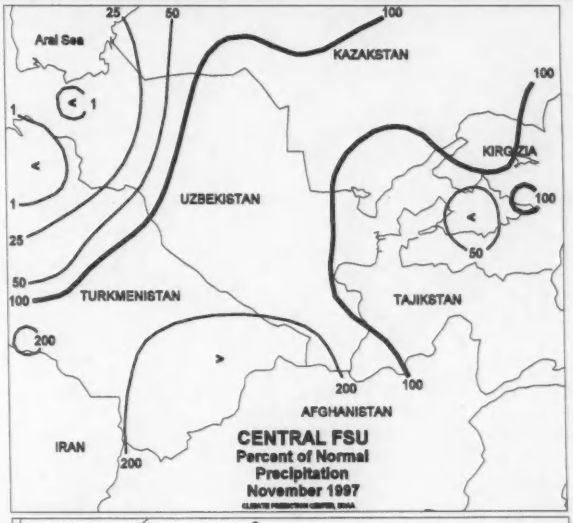
**SOUTHEAST ASIA:** Widespread showers brought drought relief for main-season rice in Java. Below-normal rainfall continued to worsen drought across the Philippines.

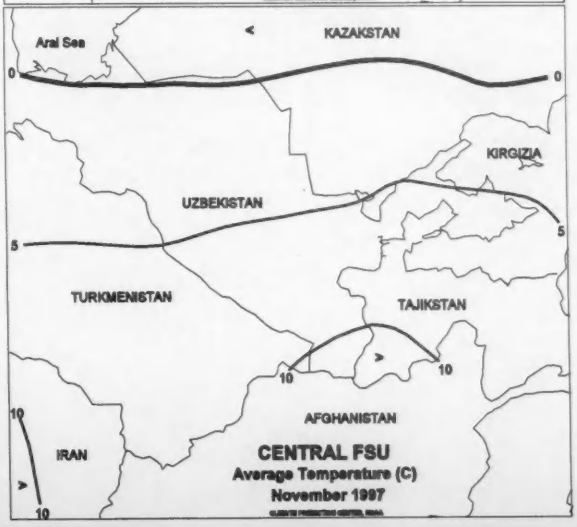
**EASTERN ASIA:** Winter wheat entered dormancy across the North China Plain.

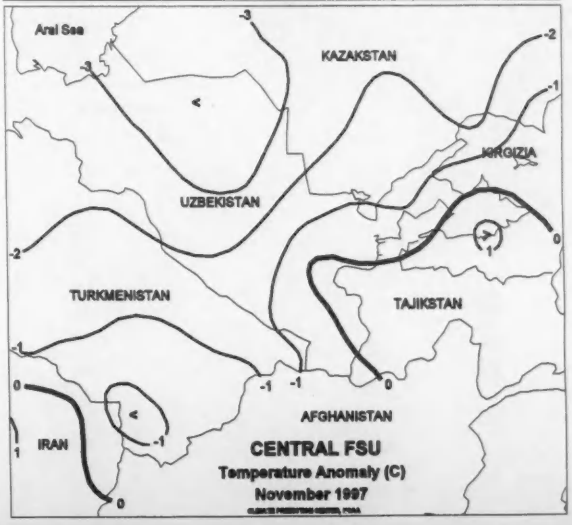
**SOUTH AMERICA:** Showers boosted topsoil moisture for germinating summer crops across the region, but heavy rain in Argentina caused flooding.

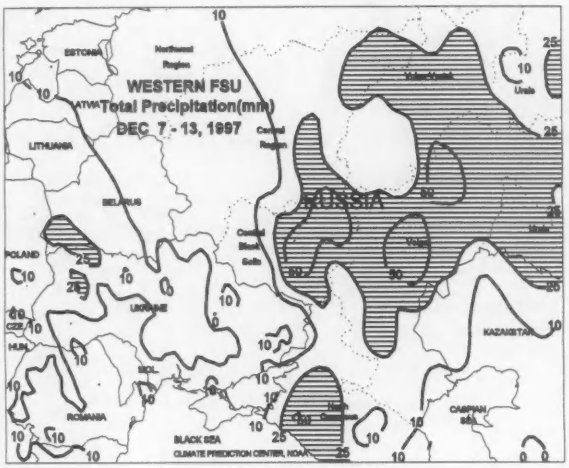
**MEXICO:** Freezing temperatures possibly damaged coffee in east-central Mexico.



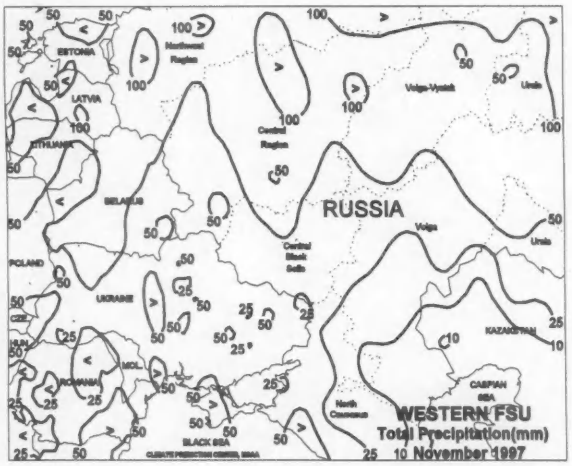



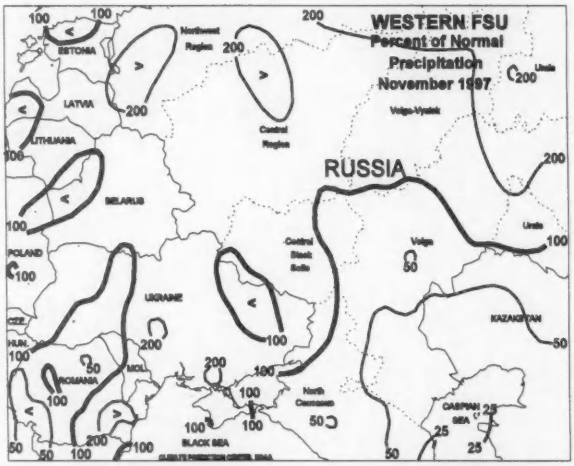



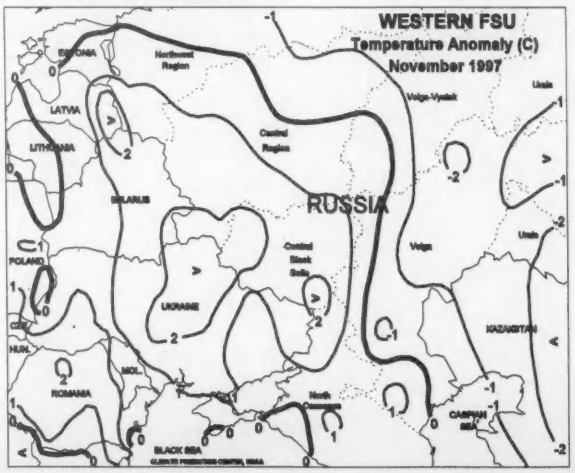


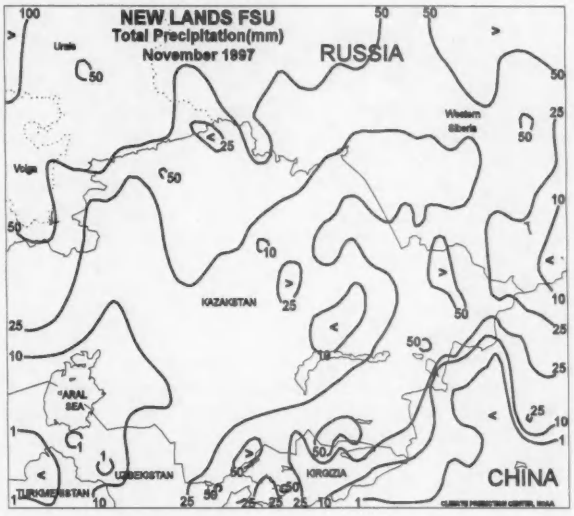

## FSU-WESTERN

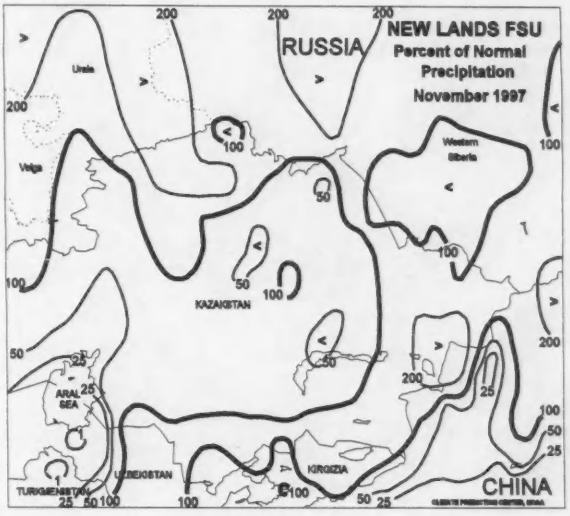
In Russia and Ukraine, mild weather early in the week was replaced by much colder weather by week's end. The bitter cold (minimum temperatures ranging from -10 to -19 degrees C) plunged as far south as winter grain areas in the northern tip of the North Caucasus region and northern and eastern Ukraine. In both Russia and Ukraine, the cold snap was accompanied by light to moderate snowfall, providing protection from extreme cold. Farther south, mild weather was accompanied by light to moderate rain (10-50 mm) in winter wheat areas in the southern Ukraine and the southern half of North Caucasus, Russia. Elsewhere, a cooling trend in the Baltics and Belarus was accompanied by rain that turned to snow at week's end, increasing snow cover. In November, weather conditions favored winter grains throughout most of the region. Near- to above-normal temperatures prevailed over most crop areas in Russia, Ukraine, Belarus, the Baltics, and Moldova. Temperatures in November were low enough to keep winter grains dormant in northern Russia. During the month, winter wheat in major growing areas in Ukraine and southern Russia entered dormancy with sufficient hardening. Near- to above-normal precipitation in November helped recharge soil moisture in Ukraine, northern Russia, most of Belarus, Latvia, and Estonia. Elsewhere, below-normal precipitation occurred in the lower Volga Valley and the North Caucasus regions in Russia.

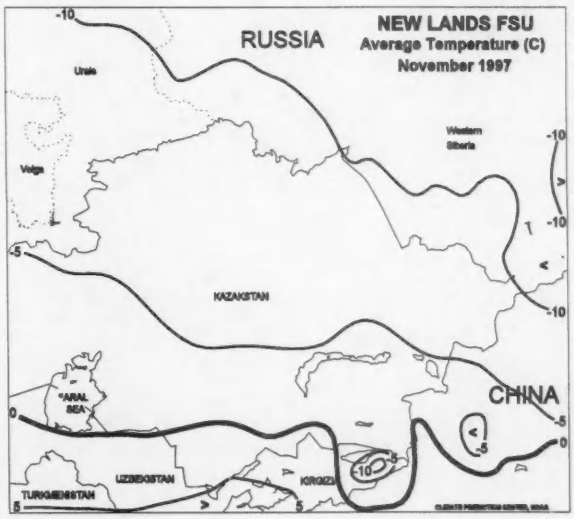


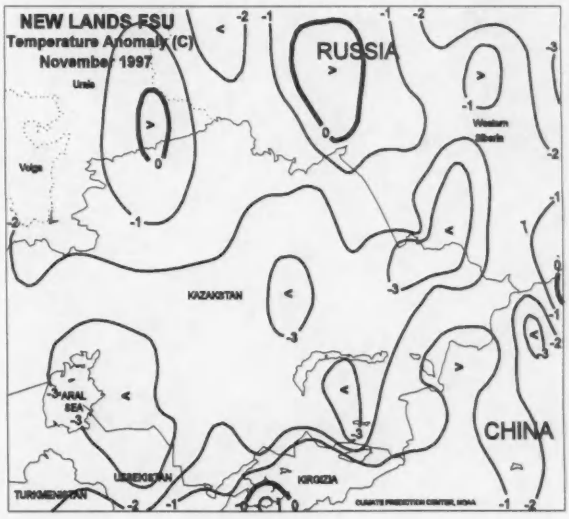






NEW LANDS FSU
Total Precipitation(mm)
November 1997
RUSSIA
Urals
Volga
Western Siberia
KAZAKSTAN
ARAL SEA
UZBEKISTAN
TURKMENISTAN
KIRGIZIA
CHINA

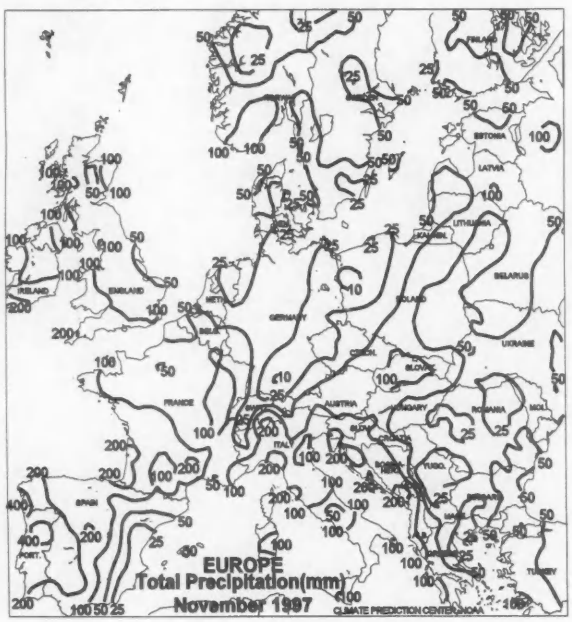

NEW LANDS FSU
Percent of Normal
Precipitation
November 1997
RUSSIA
Urals
Volga
Western Siberia
KAZAKSTAN
ARAL SEA
UZBEKISTAN
TURKMENISTAN
KIRGIZIA
CHINA

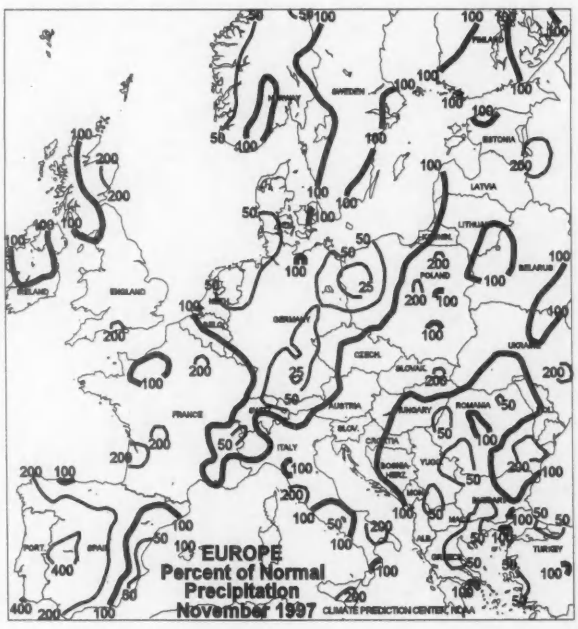

NEW LANDS FSU
Average Temperature (C)
November 1997
RUSSIA
Urals
Volga
Western Siberia
KAZAKSTAN
ARAL SEA
UZBEKISTAN
TURKMENISTAN
KIRGIZIA
CHINA

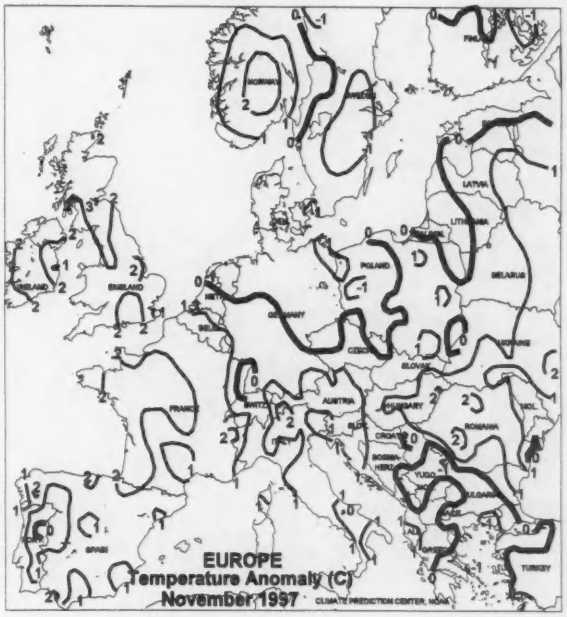

NEW LANDS FSU
Temperature Anomaly (C)
November 1997
RUSSIA
Urals
Volga
Western Siberia
KAZAKSTAN
ARAL SEA
UZBEKISTAN
TURKMENISTAN
KIRGIZIA
CHINA

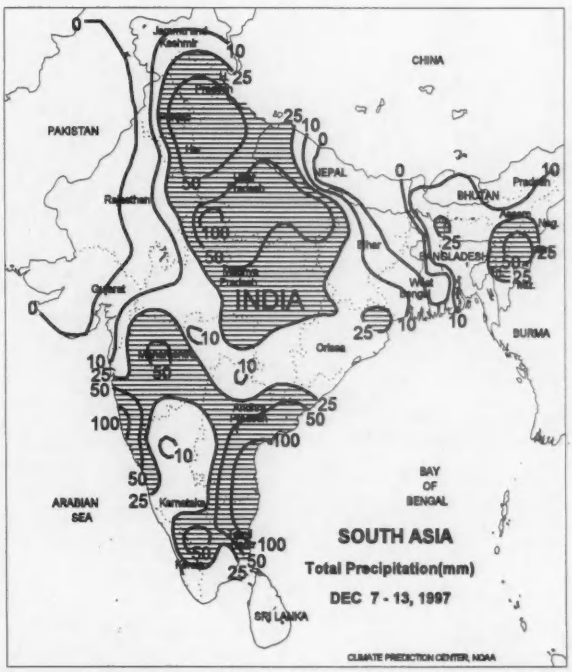
## EUROPE

Widespread light precipitation and mild weather favored winter grains over most of Europe. Precipitation amounts generally ranged from 10 to 25 mm, with local amounts in excess of 50 mm. Mostly dry weather in Italy improved conditions for winter grain planting. Light to moderate showers (4-33 mm) in Portugal maintained soggy field conditions, while farther east, drier weather in southern Spain helped late winter grain planting. Weekly temperatures averaged 2 to 5 degrees C over most of Europe, except in Bulgaria and Greece, where temperatures averaged 1 to 3 degrees C below normal. In November, above-normal precipitation and mild weather in England, France, and northern Spain benefited winter grain establishment. Farther east, precipitation tapered off in Germany, with well-below-normal amounts of moisture in southern and eastern areas. In eastern Europe, above-normal precipitation fell in eastern Poland, the Czech Republic, and Slovakia, while below-normal rainfall in Hungary continued to limit moisture for winter grain development. In southeastern Europe, below-normal precipitation and seasonable temperatures in Yugoslavia and Bulgaria favored late-season fieldwork and allowed further establishment of winter grains. Elsewhere, persistent heavy rain fell in Portugal and adjacent areas in Spain. Two to six times the normal amount of rain fell in these areas, delaying fieldwork and causing some flooding. Farther east during the month, above-normal precipitation in peninsular Italy frequently fell, slowing winter grain planting.



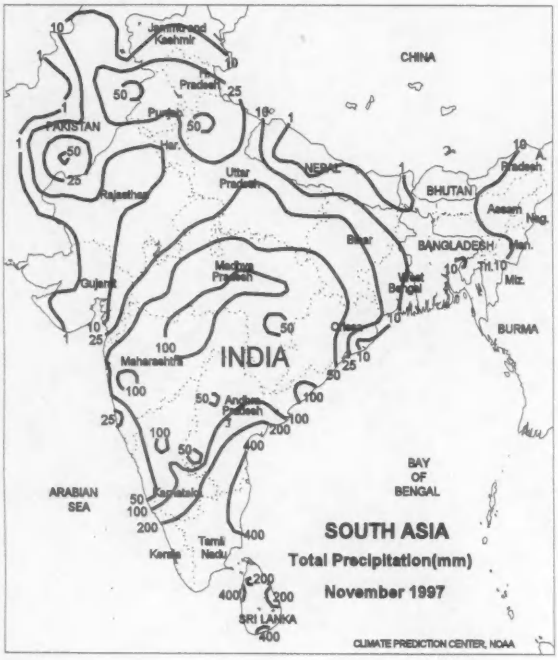



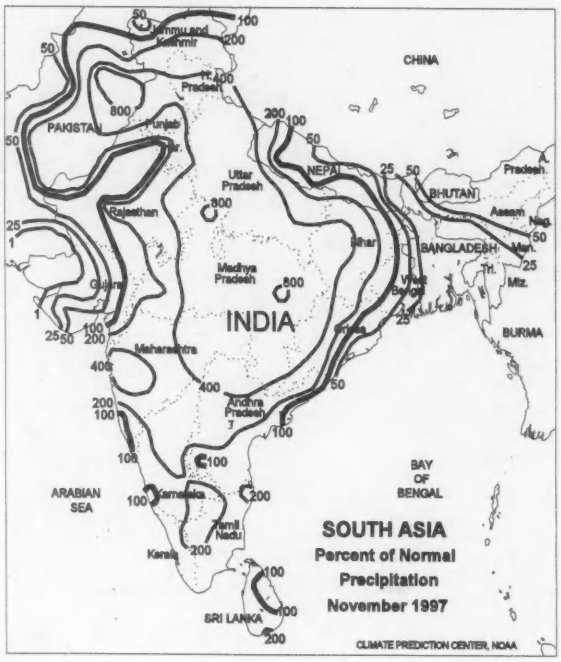



## SOUTH ASIA

Unseasonable rain (10-25 mm, exceeding 50 mm at many locations) covered much of India. While slowing seasonal fieldwork and keeping mature cotton unfavorably wet, moisture is adequate to abundant for winter grains and oilseeds. Heavy rain (50-100 mm or more) persisted over southeast coastal rice areas, likely causing some additional damage. In November, early-month dryness favored maturing grains, oilseeds, and cotton. However, conditions became progressively wetter as heavy rains spread northward from the southern interior. By month's end, showers were reaching northern Pakistan and cotton areas of north-central India. Rainfall totaled 200 to as much as 800 percent of normal (25-50 mm or greater) and was extremely untimely for maturing cotton and other summer crops. The moisture was overall beneficial for winter grains and oilseeds, although some fieldwork delays resulted.


CHINA
PAKISTAN
INDIA
NEPAL
BHUTAN
BANGLADESH
BURMA
SRI LANKA
ARABIAN SEA
BAY OF BENGAL
Jammu and Kashmir
H. Pradesh
Punjab
Har.
Uttar Pradesh
Rajasthan
Bihar
Assam
Nag.
Man.
Tri.
Miz.
West Bengal
Orissa
Madhya Pradesh
Gujarat
Maharashtra
Andhra Pradesh
Karnataka
Tamil Nadu
Kerala
SOUTH ASIA
Total Precipitation(mm)
November 1997
CLIMATE PREDICTION CENTER, NOAA


CHINA
PAKISTAN
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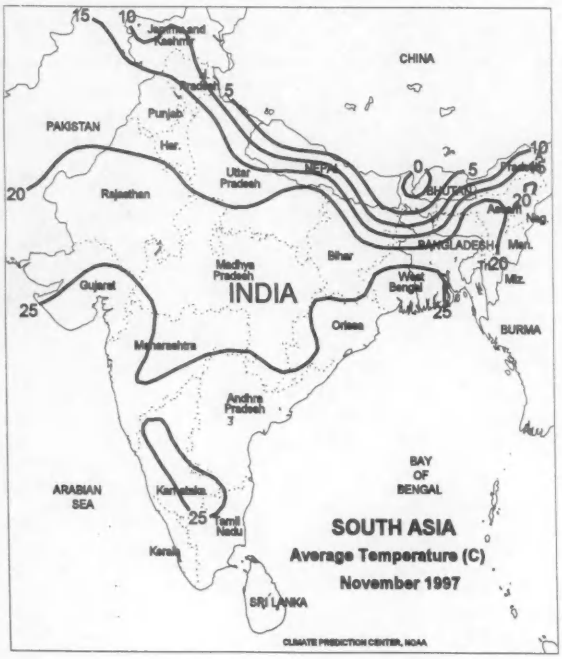
BHUTAN
BANGLADESH
BURMA
SRI LANKA
ARABIAN SEA
BAY OF BENGAL
Jammu and Kashmir
H. Pradesh
Punjab
Har.
Uttar Pradesh
Rajasthan
Bihar
Assam
Nag.
Man.
Tri.
Miz.
West Bengal
Orissa
Madhya Pradesh
Gujarat
Maharashtra
Andhra Pradesh
Karnataka
Tamil Nadu
Kerala
SOUTH ASIA
Percent of Normal Precipitation
November 1997
CLIMATE PREDICTION CENTER, NOAA


CHINA
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BANGLADESH
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SRI LANKA
ARABIAN SEA
BAY OF BENGAL
Jammu and Kashmir
H. Pradesh
Punjab
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Uttar Pradesh
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Bihar
Assam
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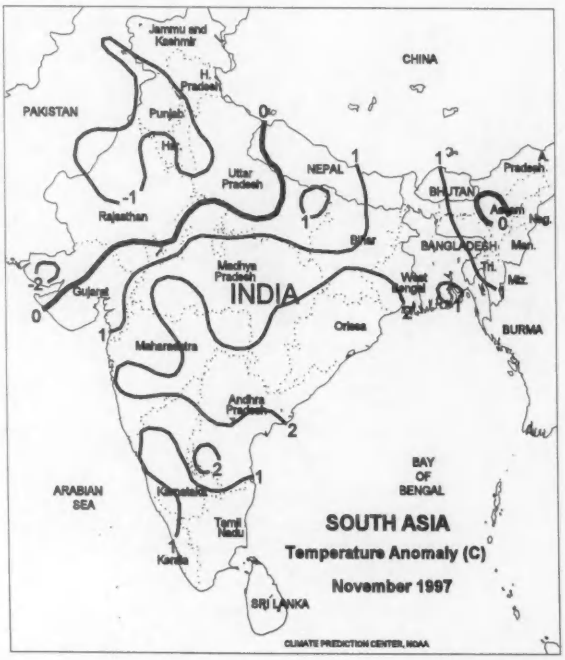
Man.
Tri.
Miz.
West Bengal
Orissa
Madhya Pradesh
Gujarat
Maharashtra
Andhra Pradesh
Karnataka
Tamil Nadu
Kerala
SOUTH ASIA
Average Temperature (C)
November 1997
CLIMATE PREDICTION CENTER, NOAA


CHINA
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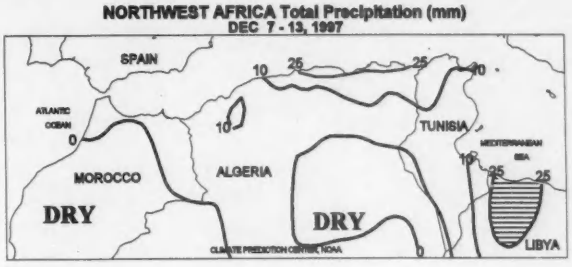
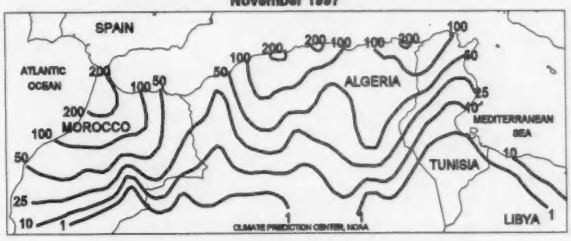
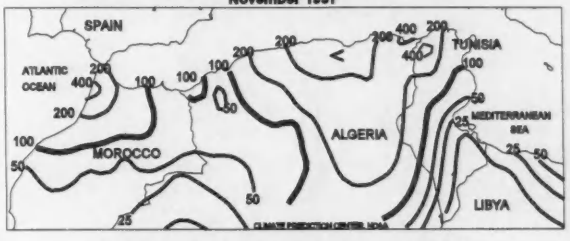
West Bengal
Orissa
Madhya Pradesh
Gujarat
Maharashtra
Andhra Pradesh
Karnataka
Tamil Nadu
Kerala
SOUTH ASIA
Temperature Anomaly (C)
November 1997
CLIMATE PREDICTION CENTER, NOAA

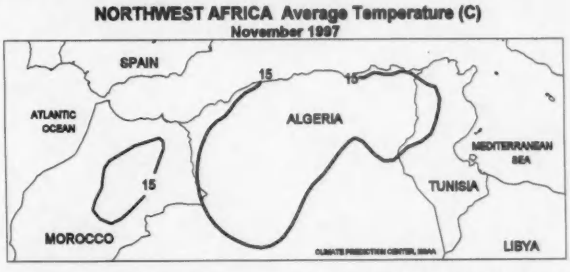


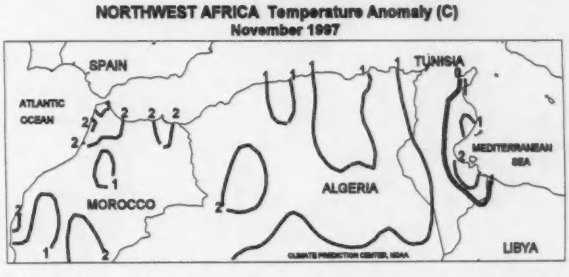

## NORTHWESTERN AFRICA

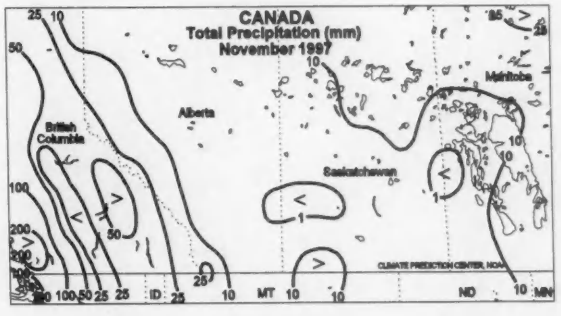
Light showers (4-18 mm) fell in Algeria and Tunisia, maintaining favorable moisture conditions for winter grain emergence and establishment. Greatest amounts of precipitation (37-43 mm) fell along the coast, outside the principal winter grain-producing area. Mostly dry weather prevailed in Morocco, allowing winter grain planting to rapidly progress. Usually, the bulk of winter grains are planted in the region by mid-December. However, planting can extend into early January without a loss in yield potential. In November, winter grain planting was well underway across the region. Well-above-normal precipitation fell in northern Morocco, Algeria, and Tunisia, providing abundant planting moisture. Below-normal precipitation prevailed in southern Morocco, where additional rain is needed to ensure a good start to this year's growing season.

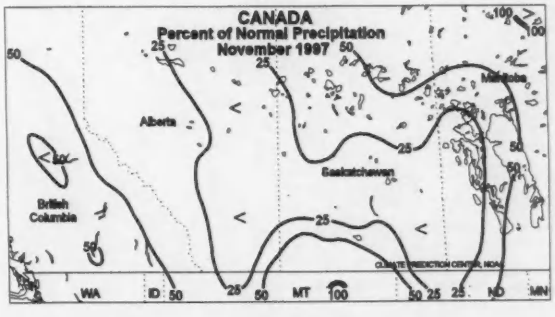


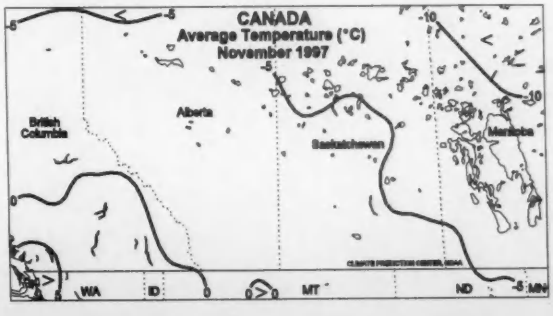



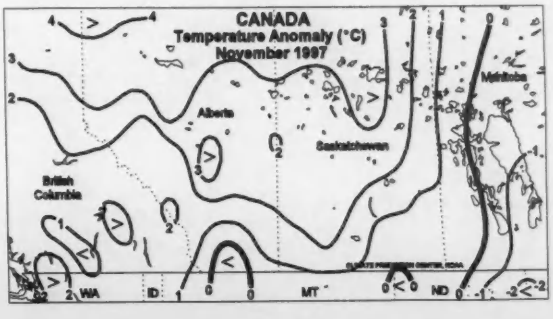



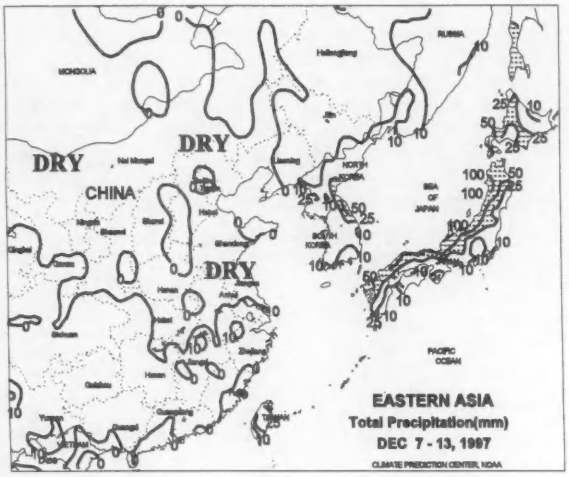



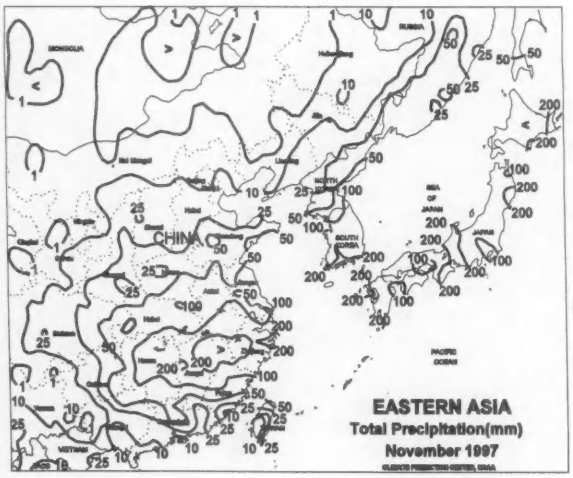



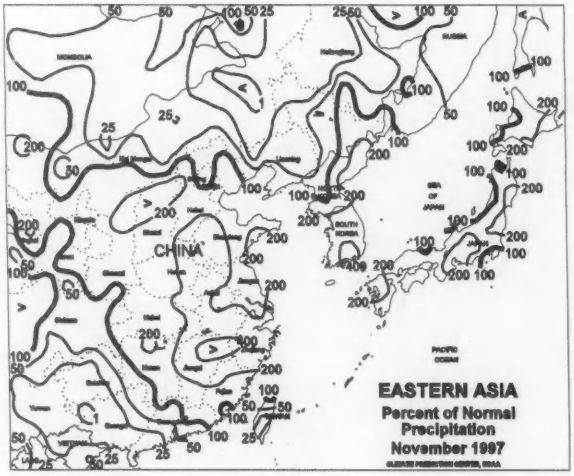



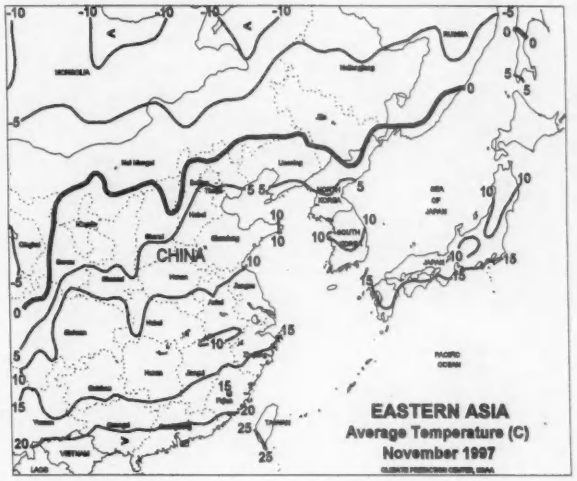


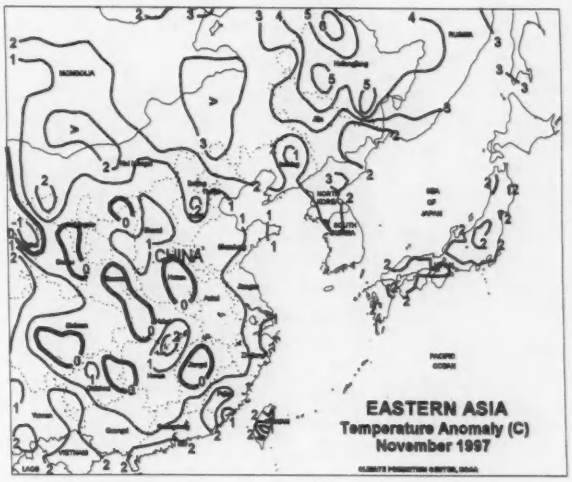

## EASTERN ASIA

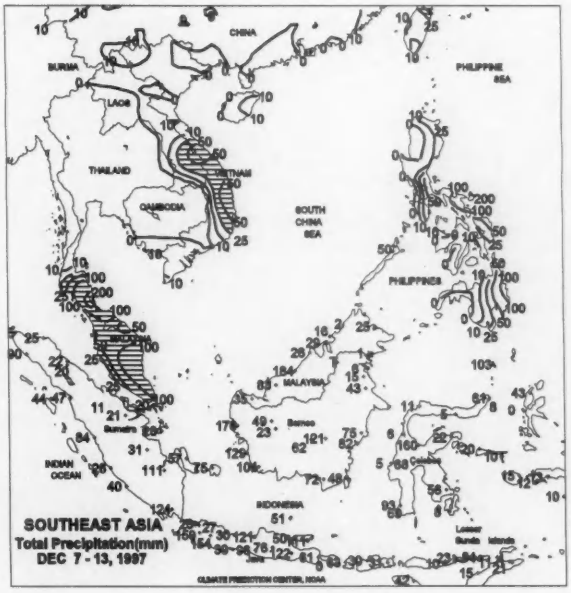
Seasonably dry, cold weather prevailed across north-central China, prompting winter wheat to enter dormancy. Minimum temperatures ranged from -3 to -9 degrees C (1-2 degrees C below normal) across the main wheat areas, causing some burn back. During November, rainfall averaged 150 to 300 percent of normal (20-60 mm for the month) across the North China Plain, aiding vegetative wheat and boosting moisture reserves. Much-above-normal rainfall also increased moisture supplies for winter grains and oilseeds in the lower Yangtze Valley.



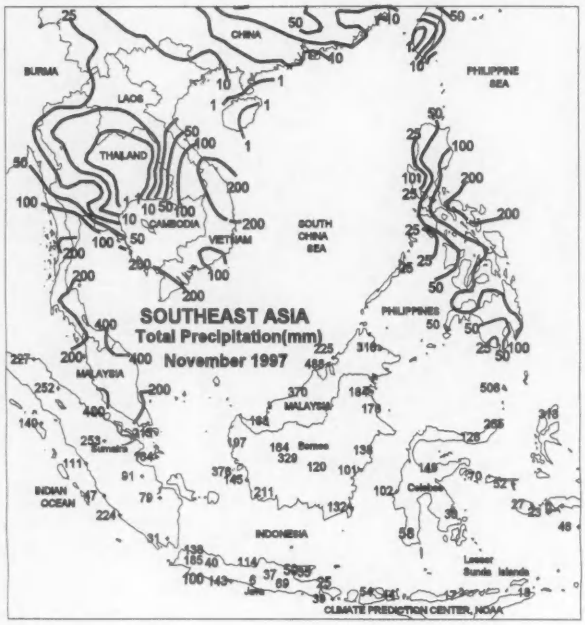


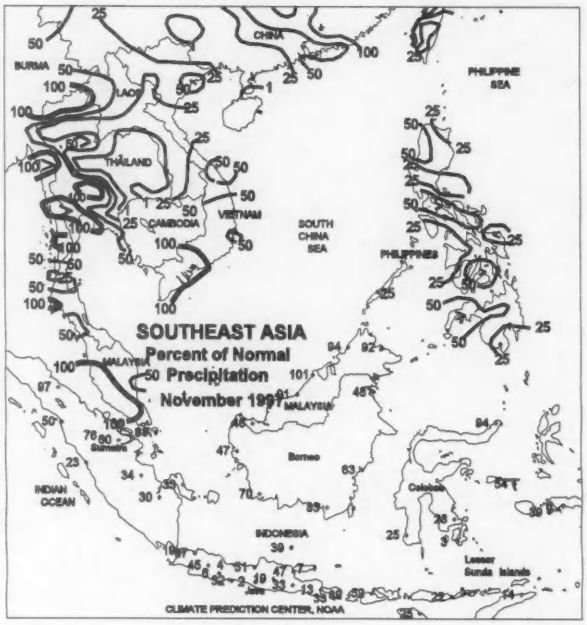



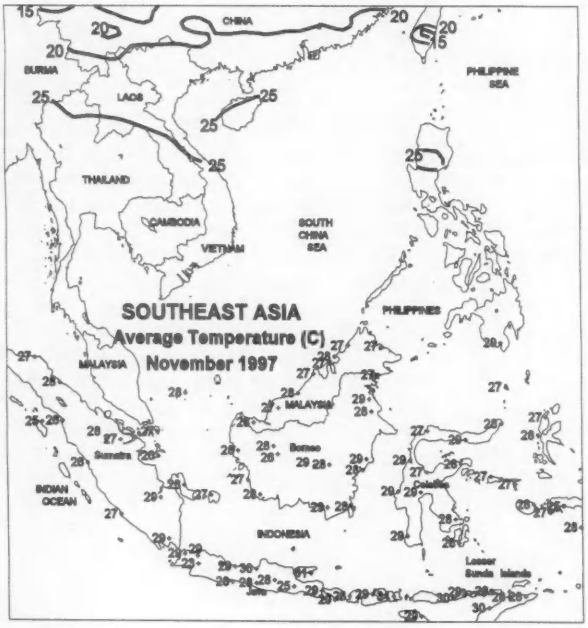




## SOUTHEAST ASIA

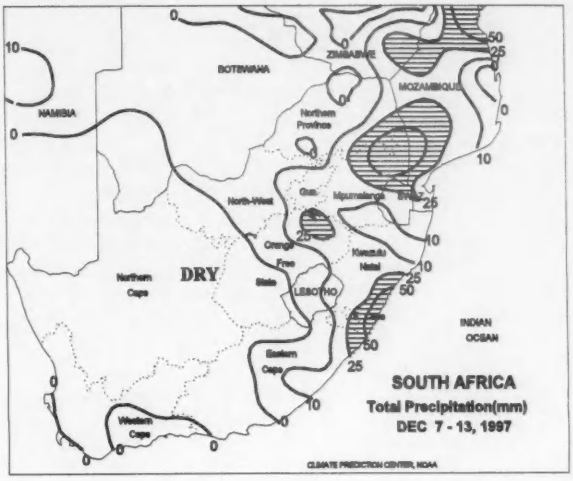
Widespread showers (27-150 mm) finally covered Java and southern Sumatra, bringing additional drought relief and increasing moisture supplies for main-season rice planting. Unseasonably light showers (less than 30 mm) worsened drought conditions across the Philippines. Only portions of southern Luzon received seasonable rainfall (50-200 mm). Dry weather favored late main-season rice harvesting and early second-season rice transplanting in Thailand and Vietnam. Showers (25-190 mm) benefited oil palm across peninsular Malaysia and Thailand. By mid-November, the rainy season started across Java and southern Sumatra, about 2 months behind schedule. Below-normal November rainfall also prevailed across the Philippines, reducing moisture supplies for second-season rice. Below-normal rainfall aided rice harvesting in Thailand and most of Vietnam. Typhoon Linda, which hit extreme southern Vietnam on November 2, caused minor damage to rice.


SOUTHEAST ASIA
Total Precipitation(mm)
November 1997
CHINA
BURMA
LAOS
THAILAND
CAMBODIA
VIETNAM
SOUTH CHINA SEA
PHILIPPINE SEA
PHILIPPINES
MALAYSIA
INDIAN OCEAN
INDONESIA
Sumatra
Borneo
Celebes
Lesser Sunda Islands
Java
CLIMATE PREDICTION CENTER, NOAA


SOUTHEAST ASIA
Percent of Normal
Precipitation
November 1997
CHINA
BURMA
LAOS
THAILAND
CAMBODIA
VIETNAM
SOUTH CHINA SEA
PHILIPPINE SEA
PHILIPPINES
MALAYSIA
INDIAN OCEAN
INDONESIA
Borneo
Celebes
Lesser Sunda Islands
CLIMATE PREDICTION CENTER, NOAA

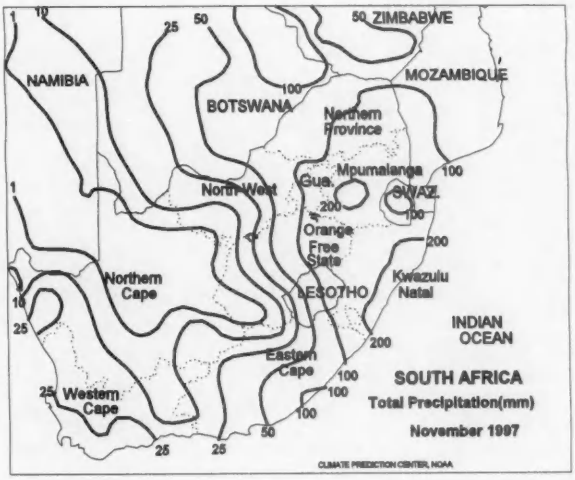

SOUTHEAST ASIA
Average Temperature (C)
November 1997
CHINA
BURMA
LAOS
THAILAND
CAMBODIA
VIETNAM
SOUTH CHINA SEA
PHILIPPINE SEA
PHILIPPINES
MALAYSIA
INDIAN OCEAN
INDONESIA
Sumatra
Borneo
Celebes
Lesser Sunda Islands
Java

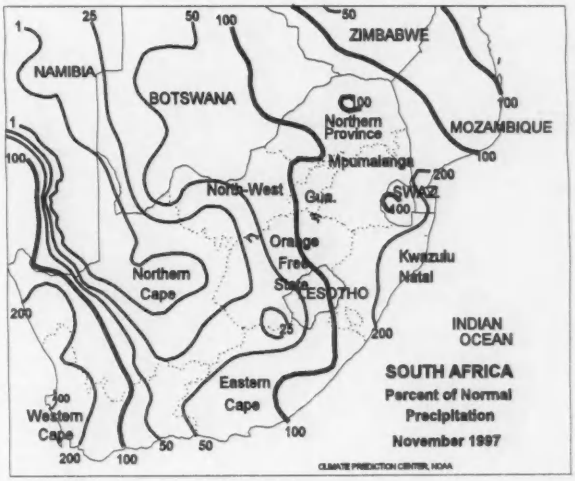
SOUTHEAST ASIA
Temperature Anomaly
November 1997
CHINA
BURMA
LAOS
THAILAND
CAMBODIA
VIETNAM
SOUTH CHINA SEA
PHILIPPINE SEA
PHILIPPINES
MALAYSIA
INDIAN OCEAN
INDONESIA
Borneo
Celebes
Lesser Sunda Islands
Java
CLIMATE PREDICTION CENTER, NOAA

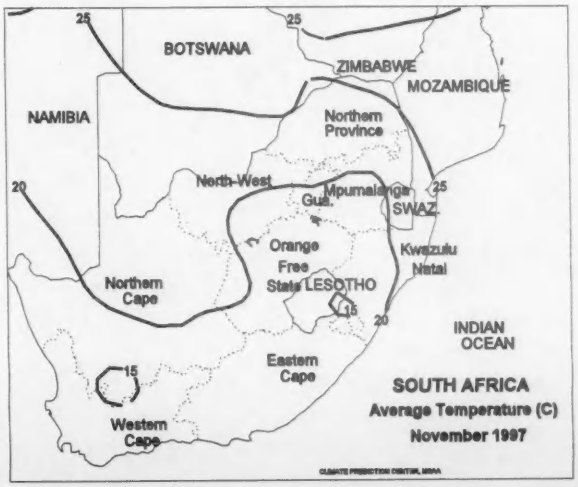


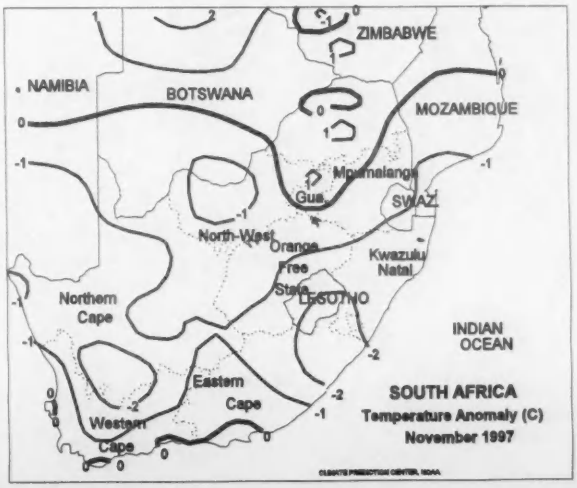

## SOUTH AFRICA

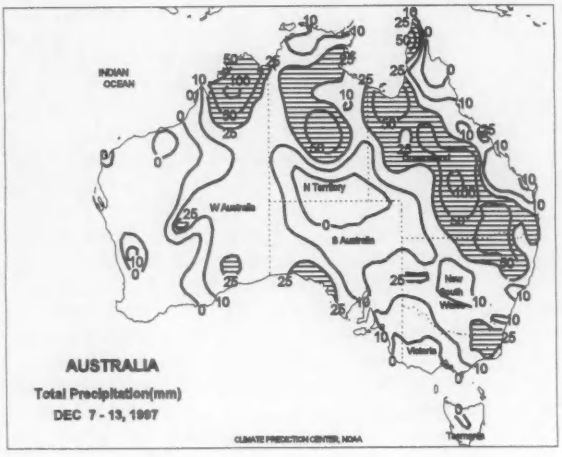
Warmer- and drier-than-normal weather dominated the corn belt. In the west, temperatures hit the upper 30's and lower 40's C, stressing emerged corn and depleting topsoil moisture reserves for late plantings. Farther east, light rain (10-25 mm) covered vegetative corn as above-normal temperatures kept crop moisture demands high. During November, rainfall was near to below normal in the western corn belt and near to above normal in the east, with temperatures averaging near to below normal even in the driest areas. As a result, corn prospects were generally favorable in the east but guarded for the west, with just a few weeks remaining in the optimal planting period. Farmers tried to plant as early as possible to avoid potential problems typically associated with El Niño later in the growing season. However, dryness precluded planting in sections of the west, and crops planted on schedule have already experienced some degree of heat and moisture stress.



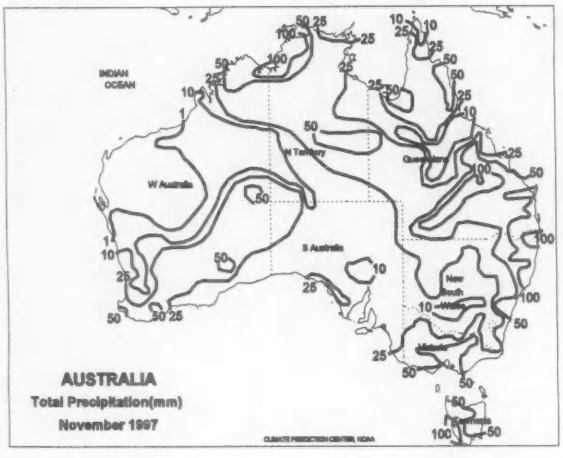



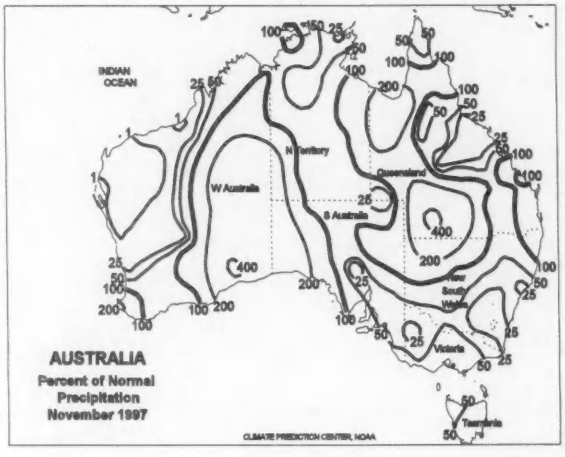



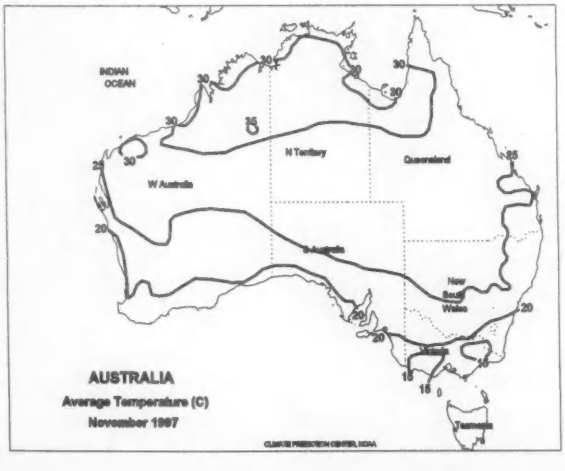


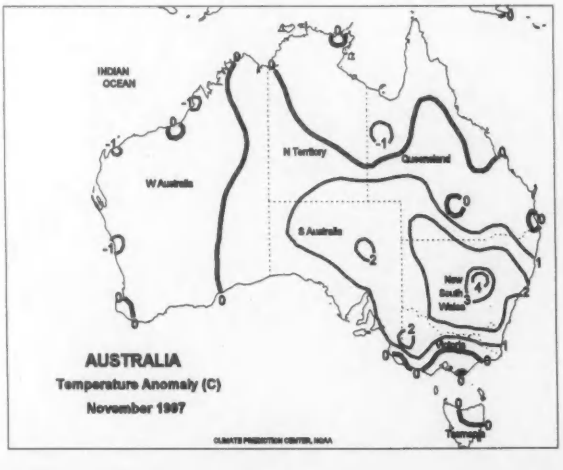

## AUSTRALIA

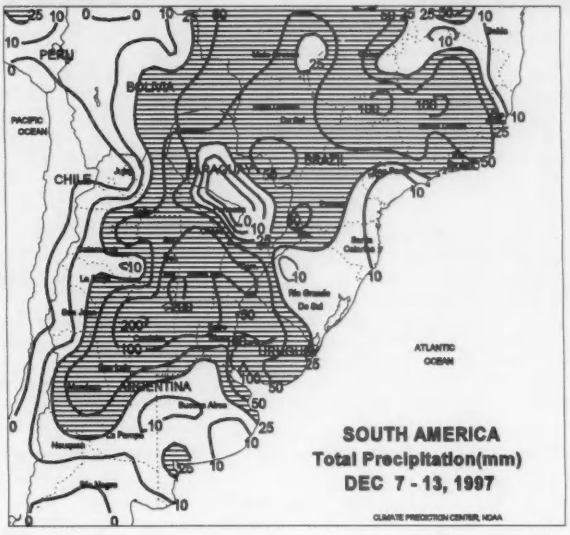
Widespread, moderate to heavy rain (25-50 mm or more) covered primary sorghum and cotton areas of Queensland and New South Wales. The rain ended a brief period of untimely dryness and unseasonable warmth. Western crop areas in New South Wales and Queensland's northeastern districts received somewhat lighter rainfall (1-25 mm). Winter grain harvesting progressed, but rain (5-25 mm) caused some delays in sections of the southeast, notably western crop areas of South Australia. Light rain (10 mm or less) covered New Zealand's main pasture and grazing lands. During November, rainfall was near to above normal in Australia's primary summer crop areas, the exception being Queensland's northern sugarcane areas. Shower activity was frequent over Queensland, but the bulk of the New South Wales rain came in 1 week. Showers from that series of storms reportedly lowered the quality of unharvested winter grains. Aside from that one wet week, generally warm, dry weather favored the east's unharvested winter crops. However, unseasonable heat late in the month stressed immature winter grains in the far south. Conditions remained generally favorable for winter grains in Western Australia.



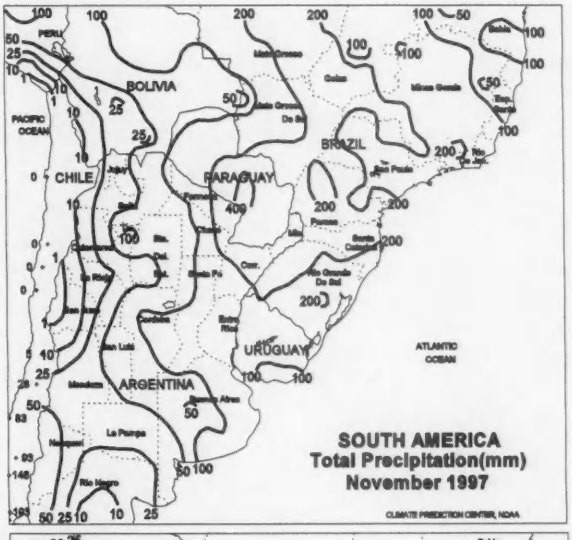



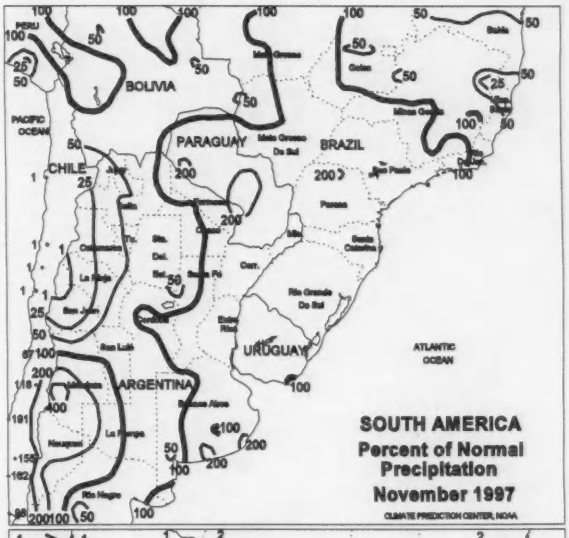



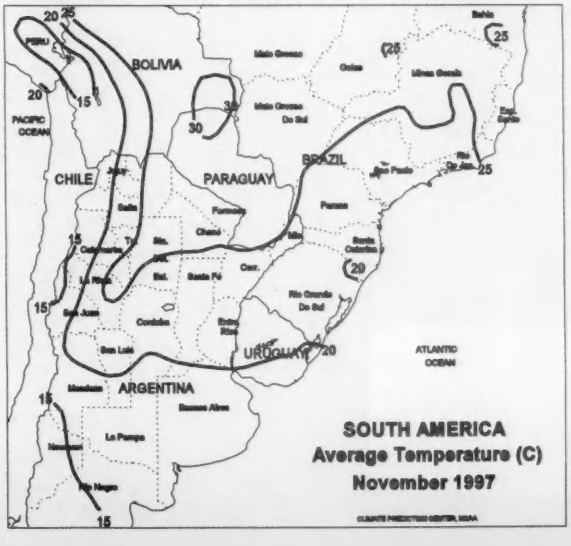



## SOUTH AMERICA

Moderate showers (20-75 mm) maintained favorable soil moisture supplies for germinating soybeans across southern Brazil. The rain was especially beneficial across Rio Grande do Sul, which had been trending dry. According to reports as of December 4, 85 percent of the Brazilian soybean crop has been planted, equaling the 5-year average. In Argentina, a large area of heavy showers (100-200 mm) drenched northern Cordoba, northern and central Santa Fe, and southern Chaco, causing flooding and possibly washing out some cotton fields. Farther south, light to moderate rain (10-30 mm) covered the main summer crop area. On December 14, scattered heavy rain (greater than 100 mm) slowed winter wheat harvesting in Buenos Aires, and possibly caused some crop damage. Weekly temperatures averaged 1 to 2 degrees C above normal across the region. In November, near- to above-normal rainfall covered most of central Argentina and southern Brazil. Only La Pampa and western Buenos Aires in Argentina and portions of Goias and Minas Gerais in Brazil received below-normal November rainfall.



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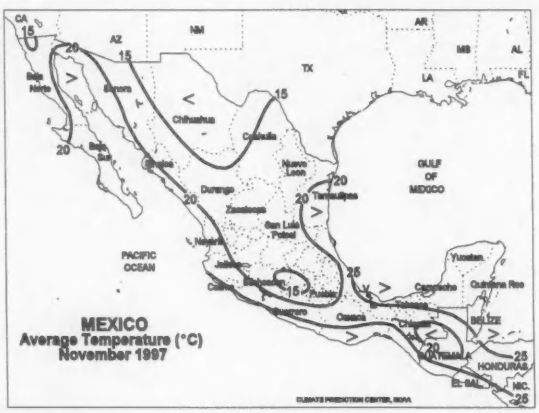

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